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OIL WEEKLY

FOR OIL AND GAS PRODUCERS AND REFINING

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HOUSTON, TEXAS

VOLUME 61 JUNE 8, 1936 NUMBER 13

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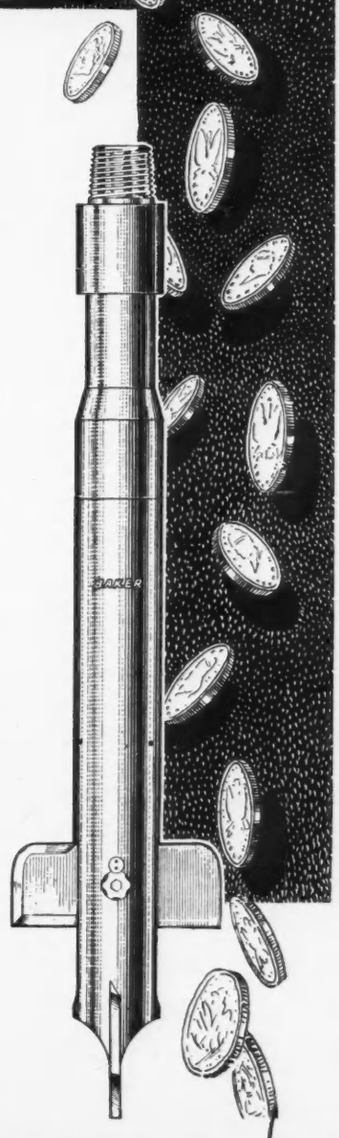

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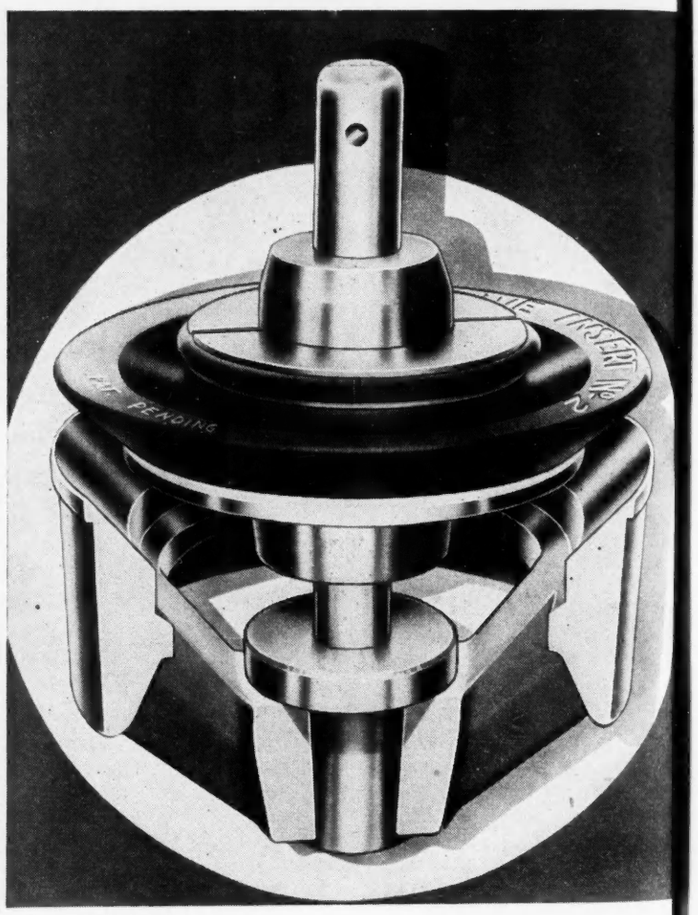

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THE OIL WEEKLY

FOR OIL AND GAS PRODUCERS
AND PIPE LINE MEN

ENGINEERING NEWS STATISTICS

WARREN L. BAKER, Editor.

. . . this Week

THE situation at Rodessa was somewhat relieved last week. Both the Texas Railroad Commission and the Louisiana Conservation Commission issued orders cutting the well allowable from 350 barrels each to 275 barrels. In addition, all wells on Pelican Oil & Gasoline Company's Sexton lease remained curtailed to the regular allocation, although its special order permitting up to 20,000 barrels daily production is still in effect as far as the Louisiana Conservation Commission is concerned. However, a federal court injunction has been issued stopping it from interstate traffic. Meanwhile, rumors continue to circulate that several companies may purchase the Sexton lease jointly. **Page 8.**

IT IS now reasonably assured that June will be a month of generally favorable results for the industry. Allowables established for the month by the various states likely will not cause additions to crude storage, although there is not apt to be any withdrawals either. Oklahoma and Kansas are largely responsible for the better outlook, having cut back to 5 percent below the Bureau of Mines recommendations. Other states, Texas and New Mexico, also curtailed their output, although not below the bureau figures. Louisiana and California failed to co-operate to the extent that Texas and New Mexico did. Steps must be taken immediately to get all states to co-operate during July and succeeding months, or Oklahoma and Kansas probably will not desire to continue their leadership. **Page 11.**

AT THE Eastern District meeting of the American Petroleum Institute Division of Production, Axtell J. Byles, president of the organization, declared the industry should be more concerned over the ever-increasing surplus of oil and gasoline, rather than the failure of the country's supply. He urged conservation, not only as a means of more efficient operation, but as a means of steadying an overstocked market. He asserted the nation's gasoline stocks are approximately 11,000,000 barrels greater than a year ago, due to an increased oil production of 400,000 barrels daily and the running of 300,000 barrels more oil to stills daily. **Page 9.**

THE intangible values of pipe line systems operating in Texas, upon which will be based the intangible assets tax assessments for the current year, have been announced by the State Tax Board. The various companies were divided into three classifications, determined by the type of transportation service rendered. The total intangible value of all lines was fixed at $58,606,000. **Page 10**

ALTHOUGH retail prices did not make any advance during the past week, a better aspect was in view and before the end of June there may be some improvement. The most notable factor aiding to promote improvement is the large demand for gasoline. Other favorable influences are recent substantial reductions in gasoline inventories, and the better control of crude production provided for by June allowables. The high consumption of gasoline over the Memorial Day holiday period virtually eliminated the previously prevailing surplus of the third-grade product. **Page 43.**

REPRESSURING of limestone producing areas in Kentucky differs from sandstone problems in so far as regular patterns will not always prove successful and outlines of affected areas are extremely difficult in most cases. Calcium carbonate seals the walls of the wells and makes shooting or the drilling of new wells advisable. Moreover, there are difficulties in obtaining a satisfactory permeability profile. **Page 31.**

THE possibilities of succussful and profitable repressuring or other types of secondary recovery methods depend upon the application of certain phases of physics, chemistry, physical-chemistry, geology, mechanics, civil and petroleum engineering. It is extremely important that the coring of wells plays should not be overlooked. **Page 37.**

DEEP well drilling offers many difficult problems, and as the industry drills deeper and deeper, new troubles are certain to arise. However, just as courage and ingenuity and science have in the past steadily increased the depth limits of safe and easy drilling, so will these agents of progress come to the assistance in the future. It may be confidently predicted that deep wells, if they exist, will be discovered and developed so the oil will be available when it is needed. Casing troubles, crooked holes, hard formations, heaving shale, cementing, mud-laden fluid, withdrawal of drill pipe, blowouts and coring and other means of testing formations are but a few of the problems commented upon by K. C. Heald in discussing deep well drilling. **Page 19.**

The Oil Man's Calendar

JUNE 17–20	American Society of Mechanical Engineers, Dallas, Texas.
18–19	Pennsylvania Grade Crude Oil Association, State College, Pennsylvania.
JULY 31	Interstate Oil Compact Commission, Dallas, Texas.
SEPT. 16–18	National Petroleum Association, Atlantic City, New Jersey. American Petroleum Institute, Division of Production, Mid-Continent District, Probably at Oklahoma City.
OCT.	American Institute of Mining and Metallurgical Engineers, Cleveland, Ohio.
NOV. 9–12	American Petroleum Institute, 17th Annual Meeting, Chicago, Illinois.
NOV. 30–DEC. 1	Independent Petroleum Association of America, Biltmore Hotel, Oklahoma City, Oklahoma.

Rodessa Relieved

WELL ALLOWABLE REDUCED; PELICAN WITHIN ALLOCATION

SHREVEPORT.

THE unfavorable influence of Rodessa on the crude oil markets of the nation was somewhat relieved the past week, when allowables were reduced and with Pelican Oil & Gasoline Company's wells producing only the regular allocation. Meanwhile, rumors continue to circulate that Pelican Oil & Gasoline Company may sell its Sexton lease, which has a special allowable order.

The per well allowable at Rodessa for June has been reduced 75 barrels to 275 barrels per well by both the minerals division of the Louisiana Conservation Commission and by the Texas Railroad Commission. The reduction is the first in four months made in this field. The lower allowable was first announced in Louisiana and was followed soon after by Texas, the latter contingent on each well's gas-oil ration not exceeding 2000 to 1.

The Texas Railroad Commission records indicated that there were 12 producing wells on the Texas side of the field at the time it promulgated its order. There were approximately 200 wells in the entire field.

The Texas Railroad Commission made its first bid to control excessive gas production from the field by inclusion of a displacement allowance in the order. Wells are permitted to produce 275 barrels daily, provided their gas-oil ratios do not exceed 2000 to 1. For wells with a gas-oil ratio in excess of 2000 to 1, a displacement allowance was made which will permit them to produce 550,000 cubic feet of gas daily and whatever oil may come with that amount of gas.

It is expected that further evidence on the gas-oil ratios will be presented at the hearing on the Rodessa field scheduled for June 12, at Marshall, Texas.

Sexton Allowable in Effect

Although not exercising it, Pelican Oil & Gasoline Company's special order signed by Dr. J. A. Shaw, director of the minerals division, Louisiana Conservation Commission, and which grants the Pelican Company authority to produce up to 20,000 barrels daily from its 120-acre Sexton lease in Section 14-23-16w, on which there are 13 wells, is still in effect, Dr. Shaw said in an interview in Shreveport last week.

The Sexton lease was closed back to within the regular 350-barrel per well allowable for May soon after an injunction was issued recently by a federal court at Sherman, Texas, halting movement of this oil in interstate traffic and impounding 71,000 barrels of it.

Rumors continue that negotiations are under way to buy Pelican Oil & Gasoline Company's Sexton lease. Several companies may purchase it and turn it over to one concern to operate, if it can be obtained. It is general feeling that if the wells should be opened by Pelican again above the regular per well allowable of the field, there would be a general opening of wells by other operators.

Twenty-two wells at Rodessa, all on the Louisiana side of the field, are showing salt water ranging from .2 of one percent to as high as 44 percent, the latter being Vaughn Production Company's Hunter & Derryberry 1, Section 14-23n-16w.

HOUSTON OIL SHOW
Organization plans made by oil and supply men

HOUSTON.

REPRESENTATIVES of oil companies and oil equipment companies in Houston elected a temporary board of 35 to proceed to the organization of a permanent oil exposition association, at a meeting held at the Rice hotel Friday noon. Approximately 90 men were in attendance at the meeting.

The committee elected, which will select temporary officers, an executive committee, a committee to take out charter, and develop by-laws, was as follows:

John R. Suman, Humble Oil & Refining Company; F. M. Nowery, United Gas Company; James Harrison; A. T. McDannald, Smith & McDannald; Harry Hanszen; Sidney Childress, Rio Bravo Oil Company; T. E. Swigart, Shell Petroleum Corporation; Joe H. Russell, Gulf Production Company; A. M. McCorkle, Stanolind Oil & Gas Company; T. J. Donoghue, The Texas Company; Chase Sutton, Pure Oil Company; George Hill, Houston Oil Company; J. S. Abercrombie, Abercrombie & Harrison; H. J. Lund, The California Company; D. B. McDaniels; R. W. Pack, Sun Oil Company, Beaumont; Al Buchanan, San Antonio; John Crotty, Republic Supply Company; H. J. Cullinan, Petroleum Iron Works; G. O. Koen, W.K.M. Company; S. P. Brown, Hughes Tool Company; W. L. Childs, Reed Roller Bit Company; W. C. Trout, Lufkin Foundry & Machine Company, Lufkin; H. W. Millmine, Texas Rubber Specialty Company; H. J. Craig, Baash-Ross Tool Company; W. B. Sharp, Mission Manufacturing Company, and John H. Teer, Layne & Bowler Company.

The meeting was presided over by John R. Suman. Ray L. Dudley of The Gulf Publishing Company, a member of the committee sent to Tulsa to confer with the officials of the International Petroleum Exposition in regard to alternating shows between Houston and Tulsa on a basis of one show every two years, read the report of the committee to the effect that the officials of the exposition at Tulsa were unwilling to hold a show there once every four years but preferred to continue with a show in Tulsa on alternate years. He completed his report with the recommendations of the committee that Houston concentrate on one big show every second year at Tulsa.

The committee for which Dudley reported included: John R. Suman, T. J. Donoghue, Chase E. Sutton, W. L. Childs, S. P. Brown, Edmund Lorehn and himself.

Following the report a number of oil men and manufmacturers made short talks either for or against having a show in Houston on alternate years. When a vote was taken it was found that the majority present had voted in favor of an industry-owned show to be held in Houston on alternate years. Following the vote a nominating committee was appointed, which nominated the temporary directors named.

It is planned for the committee of 35 to hold a meeting at an early date, select temporary officers and set up machinery for the permanent organization.

DELAY HEARING
Expect postponement of Rodessa meeting

AUSTIN.

AUTHENTIC sources in Austin report that the hearing on the Rodessa field, scheduled by the Texas Railroad Commission for June 12 at Marshall, will be postponed. Some of the evidence to be presented at the hearing cannot be completed by the end of the week, which accounts for the delay. Because orders issued by the Texas commission must be based on hearings held in Texas, it is not likely that the hearing will be held in Louisiana, despite reports to the contrary. Louisiana conservation officials, however, will be urged to attend and observe the proceedings.

BUY RODESSA LINE
Burford sells system to United Gas System

SHREVEPORT.

UNITED Gas Public Service Company has purchased East Texas Refining Company's 56-mile, 8-inch pipe line running from the Rodessa field to the East Texas field for an unannounced consideration, according to reliable sources. The line includes three pump stations, one on the Sexton farm of Pelican Oil & Gasoline Company, the Johns station and the Falvey station, the latter two being on the Texas side of the line.

The line has been used to transport oil from Pelican Oil & Gasoline Company's Sexton lease in the Rodessa field, which is favored by a special permit from the Louisiana Conservation Commission that allows it to produce up to 20,000 barrels daily from 13 wells. Recently, a federal court granted a permanent injunction against the shipping of this oil in interstate traffic and Pelican Oil & Gasoline Company's wells were cut back to the allowable permitted other wells in the field. Movement of oil from the Sexton lease in quantities larger than permitted offset lease owners has been a sore spot having a detrimental effect on the price stability of crude oil.

Byles Sees Surplus

TELLS API EASTERN DISTRICT SUPPLY IS INCREASING

PITTSBURGH

THE nation's petroleum industry need be more concerned over the ever-increasing surplus of oil and gasoline rather than the failure of the country's supply, Axtel J. Byles, president of the American Petroleum Institute, told the annual meeting of the Eastern District, Division of Production, here.

He urged conservation of the natural crude, not for conservation alone, but as a means of steadying an overstocked market and protecting a fair and profitable market price.

President Byles declared there need be no concern either over the possible failure of an abundance of natural crude oil production for many years to come, or the industry's ability to augment the supply through extraction from coal and oil shales later.

He said, "Our problem still is one occasioned not by poverty, but by a plethora of supply. Compared with last year, current crude oil production has increased more than 400,000 barrels daily, run to stills are greater by more than 300,000 barrels daily and gasoline stocks are approximately 11,000,000 barrels larger than a year ago."

Favors Interstate Compact

Byles recommended the interstate oil compact as providing the best means of orderly development. He urged promotion of the cause of "true" conservation and of protection of the public's interest through cooperation with state conservation authorities.

Oklahoma, Kansas, Texas, New Mexica, Illinois and Colorado, he declared, already are members of the compact and expressed the hope the 16 other oil-producing states would join.

Byles' address was made in the presence of several hundred representatives of oil and gasoline producing agencies, among which are the largest in this section of the country.

Another address which roused the oil men's meeting to enthusiasm was made by T. W. Phillips, Jr., president of T. W. Phillips Gas and Oil Company of Butler, Pa. Phillips excoriated present day taxes which he criticized as "undemocratic, un-American and extremely revolutionary." He charged that the "powers behind the throne" at Washington are "taxing us into complete state socialism."

"Be not deceived," Phillips warned, "the powers behind the throne know, even if you don't know, that we are being taxed into state socialism. With full steam ahead, we are on our way."

S. W. Meals, president of the Carnegie Natural Gas Corporation of Pittsbrugh, presided over the opening session Thursday, welcomed by the city's clowning mayor, William N. McNair, who presented a serious side for a change.

Frank M. Brewster, president and general manager of Belmont Quadrangle Drilling Corporation, Bradford, Pa., spoke on "Drilling in Gas Wells Under High Pressure."

K. C. Heald, chief geologist of Gulf Production Company of Pittsburgh, presented a paper titled "Deep Well Drilling Problems and Their Solutions," in which he declared the days of experimental deep well drilling over and cited many examples of producing holes, sunk at the direction of geologists. He said: "The task of supplying the nation's needs for petroleum from deep wells perhaps calls for no greater intelligence, ingenuity and skill than did the task that was successfully performed by the pioneers who extended drilling depth from the 69 feet of Drake's discovery well to 1000 and 2000 and then 3000 feet."

Other discussions were led by Dr. C. R. Fetke, geologist with Carnegie Institute of Technology; H. R. Pierce, Sisterville, W. Va., oil man; C. D. Hunter, Ashland, Ky., geologist, and Dr. J. French Robinson, president of Peoples Natural Gas Company of Pittsburgh.

A stag dinner and entertainment were held Thursday night.

With the resumption of the session Friday, J. C. Askam of Findlay, Ohio, presiding, another paper titled "Repressuring Limestone Producing Areas in Kentucky" was presented by N. M. Wilder of the Kentucky Department of Mines and Minerals.

In the discussion which followed, C. B. McClintock of Oil City, Pa., Paul D. Torrey of Bradford, Samuel J. Brendel, of Pittsburgh, Jack Gaddes of Port Allegheny, Pa., Don J. Wilson of Pittsburgh, and D. S. Keenan of Ashland, Ky., took part.

Another paper, titled "Gas Measurements," was read by Thomas R. Weymouth, vice president of Columbia Gas and Electric Company, and a discussion was led by D. P. Hartson of Pittsburgh.

The two-day meeting was brought to a close in the afternoon by J. H. Newlon of Pittsburgh, who presided during a discussion which followed the reading of two technical papers—one by W. M. Peck of Saginaw, Mich., and another by Wilder Stout of Columbus, Ohio.

In the discussion, R. B. Newcombe of Mt. Pleasant, Mich., George Myers of Toledo, Ohio, and J. J. Schmidt of Cleveland, took the speaking rostrum to expound their theories and experiences.

Following officers were elected for the Eastern District Division of Production: J. C. Askam of Ohio Oil Company, Findlay, Ohio, chairman; F. E. Eckert, Bradford, Pennsylvania; George Wittmer, Pittsburgh; Fred Benkert, Pittsburgh; G. L. Hassler, Pennsylvania State College, and J. J. Schmidt of Cleveland, vice chairman; Christy Payne, Jr., of Pittsburgh, secretary-treasurer. H. H. Phillips, retiring chairman, was named chairman advisory committee.

H. H. PHILLIPS

President and general manager of Phillips Drilling Company, Butler, Pa., who served as chairman of the Eastern District of the American Petroleum Institute Division of Production during the past year.

WAR HURTS TRADE

Business increase offset by lasting ill effects

NEW YORK.

POLITICAL upheavals and wars to which a major company doing business on an international scale is exposed has a lasting adverse effect on that company's business, Walter C. Teagle, president of Standard Oil Company of New Jersey, told stockholders at a meeting in Newark June 2.

"The unfavorable effects more than offset any temporary increase in business done as a result of war," he said. This statement was followed by a declaration that Standard Oil Company of New Jersey has not accepted any war business from Italy.

Earnings Higher

Teagle told the stockholders that, based on a comparison with the business done by the company in the first four months of 1935, earnings of the company for the corresponding period of this year might run a bit higher than they did last year.

Referring to conditions in Venezuela, Teagle stated operating conditions on the company's properties in Venezuela were not quite as satisfactory as the company would like to see them. He attributed this to the natural unrest following the death of President Gomez, dictator of Venezuela for a quarter of a century, and to the work of radical agitators from other countries.

PIPE LINE TAX

Fix intangible the value of Texas lines

AUSTIN.

THE State Tax Board has announced the intangible values of Texas pipe lines upon which will be based the intangible assets tax assessments for the current year.

R. B. Anderson, state tax commissioner and chairman of this board, said that an opportunity would be given each company to appear before the board before the assessments were finally approved. At these hearings pipe line companies' representatives will be given an opportunity to make suggestions as to adjustments they consider advisable.

The total intangible value of all lines was fixed at $58,606,000, and the highest value for any one line was assigned to Sinclair Prairie Pipe Line Company of Texas, which was $10,306,000.

Different Methods Used

In determining the value of intangible properties of oil pipe line companies, it has been found that a different method be applied to each of the several classes of companies characterized by the extent and kind of transportation service rendered. The first class embraces companies which operate systems of pipe lines affording transportation service from more than one oil producing area to several terminals and connecting carriers. For the purpose of this preliminary assessment the intangible value of companies of this group is determined by, first, allowing the company a profit equal to ten percent of its investment in pipe line carrier property. Any profit over this amount is then considered as a measurement of the value of the intangible property. The intangible value is estimated to be equal to the profit in excess of the ten percent return on the investment capitalized at ten percent. This resultant intangible valuation is then equalized and fixed by the board for this class of companies. The preliminary assessments are as follows:

Atlantic Pipe Line Company	$ 5,568,700
Gulf Pipe Line Company	2,200,000
Humble Pipe Line Company	9,763,000
Magnolia Pipe Line Company	5,444,000
Shell Pipe Line Corporation	3,930,000
Sinclair Prairie Pipe Line Co. of Texas	10,306,000
Sinclair Prairie Pipe Line	100,000
Texas Pipe Line Company	7,183,000

The second class into which pipe line companies are grouped is the company which provides transportation service from only one oil producing area to one terminal. In calculating the value of this type of company, it is assumed that the volume of oil which will be transported during each of the years in the future will be the same percentage of the total production of the area served as the company transported during the past year. Proceeding from this proposition the net profit is calculated for each year during which the area is productive and then is discounted at six percent compound interest for the period of deferment. The sum of the net profit thus discounted is the present value of an investment which will yield six percent per annum. This present value is considered as the true value of the entire properties so that the depreciated cost of the properties is deducted therefrom, and the remainder is the value of the intangible property.

The value of this intangible property is then equalized and fixed by the board and the preliminary assessments are fixed as follows:

Arkansas Pipe Line Company	$ 276,400
Empire Pipe Line Company	164,600
Pure Transportation Company	2,483,000
Standish Pipe Line Company	60,000
Sun Pipe Line Company	1,422,000
Texas Empire Pipe Line Co. of Texas	2,898,500
Tidal Pipe Line Company	782,800
Yount-Lee Pipe Line Company	1,381,000

The third classification is made up of those which cannot be fitted into either of the other groups of companies and which have peculiarities not common to any other company. The equalized assessments of companies of this class is:

Pan American Pipe Line Company	350,000
Toronto Pipe Line Company	475,000
Valley Pipe Line Company	70,000
F. H. E. Pipe Line Company	150,000
Eastern Texas Petroleum Company	108,000
Republic Pipe Line Company	400,000
Channell Transport & Marketing Co.	800,000
Federal Pipe Line Company	50,000
International Pipe Line Company	100,000
Pasotex Pipe Line Company	390,000
Stanolind Pipe Line Company	250,000
Reagan County Purchasing Company	1,500,000

INDIAN TAX CASE

Supreme Court to decide if production is taxable

WASHINGTON, D. C.

AUTHORITY of the state of Montana to levy taxes on oil produced by British-American Oil Producing Company from lands on the Blackfeet Indian Reservation held under leases approved by the superintendent of the reservation and the Secretary of the Interior will be decided next fall by the United States Supreme Court, which on June 1 granted the petition of the company for a review of the decision of the Montana supreme court.

The granting of the petition was one of the last acts of the court before its adjournment until October.

In carrying the case to the Supreme Court, the company contended that the consent of Congress is necessary before a state can impose a tax on minerals produced from leased lands held by the government and that no such consent has ever been granted.

"Section 398, Title 25 (Act of May 29, 1924), is not applicable to either the lands here involved or the oil produced therefrom," the company asserted, "for the reason that such lands are neither unallotted, nor are they lands such as are described by Section 397, to which Section 398 refers. The Supreme Court of Montana based its decision permitting the taxes here involved upon the consent given by Section 398 If that section is not applicable, the decision and decree of the Supreme Court of Montana is without basis and should be reversed.

"The exact question here presented has never been passed upon by this court or any federal court of appeals, although the application and construction of federal statutes is involved. However, the decision of the Supreme Court of Montana is in apparent conflict with the decisions of this court holding that neither the lands, the lease, nor the oil produced therefrom may be taxed by the state."

In its brief of opposition, the Montana board of equalization contends that the tax is a levy on personal property. Further, it is asserted property held by the United States for the benefit of others, in this instance the Indians, is not the kind of property which is exempt from taxation.

Referring to Section 398 of the 1924 act relating to leases on Indian lands, the state contends that "from the language of the section it is obvious that Congress intended that the production of oil and gas from areas underneath restricted lands, that is lands for which trust patents had issued, should be placed in the same category as the production of oil and gas from areas underneath unrestricted lands so far as taxation by the state is concerned."

Successful Meet

SCOUT CONVENTION LARGEST IN ORGANIZATION'S HISTORY

DALLAS.

THE thirteenth annual meeting of the National Oil Scouts of America, Incorporated, came to a close May 30, after two days of technical and business sessions that drew by far more delegates than any previous convention. Attending the convention for the first time were members of scouting organizations from Oklahoma and Kansas, who have organized a chapter.

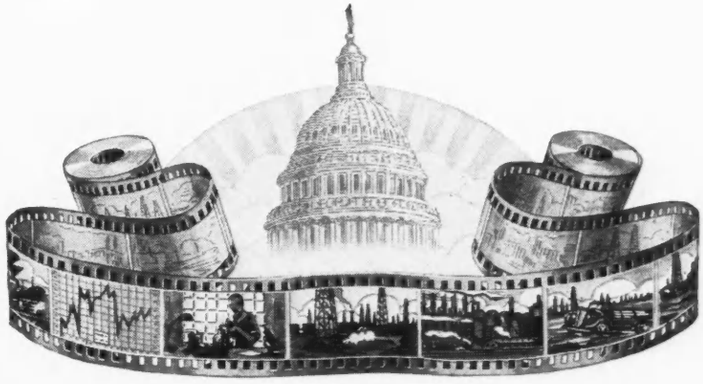
Featured in the technical session of the meeting was a talk by William L. Horner of Core Laboratories, Dallas, which was taken from his paper "Core Analysis as a Control to Well Completion" printed in National Oil Scouts Association's 1936 year-book. A lecture was also made on "Acidizing of Wells" by P. W. Pitzer of Breckenridge, Texas. Both lectures received wide response from the scouts, as both practices are receiving much attention in the oil industry.

Election of officers for the ensuing year along with talks made by the executives held the interest of the members in the business sessions. The following officers were elected for the new year: Claude Strahan, Atlantic Oil Producing Company, Shreveport, president; Maurice Miesser, Phillips Petroleum Company, Shawnee, Oklahoma, first vice-president; Paul A. Barenkamp, Sun Oil Company, Tyler, second vice-president; Harry Leyendecker, Tide Water Oil Company, Houston, chairman executive committee; Howard Boyd, Magnolia Petroleum Company, Dallas, re-elected secretary-treasurer. Maurice Miesser is the first Oklahmoa scout to hold office in the association and Howard Boyd the first officer to be reelected by the organization.

The retiring officers were: Jesse L. Bullard, Shell Petroleum Corporation, San Antonio, president; Joe Haygood,

[*Continued on page 16*]

The Changing Panorama



THE OIL WEEKLY'S COMPOSITE VIEW OF INDUSTRY

Edited by L. J. LOGAN, Associate Editor

THROUGH the fog of lately disturbed conditions, the oil industry's immediate future now looms up in fairly distinct outlines. It is reasonably assured that June will go down on the records as a month of generally favorable results. Although crude oil production was so high in April and May as to cause substantial additions to storage, the output is scheduled to conform more closely with consumption during June. The month likely will not bring any addition to crude storage, although production probably will be entirely too high to permit compliance with the Bureau of Mines recommendation that 75,000 barrels a day be taken from storage. It is indicated that production will be virtually the same as consumption, and that crude stocks will show very little net change during the month.

On the face, this is a comparatively bright picture, following two months of additions to crude stocks.

Danger in July

But there is need, in this case, to do some scratching and searching below the surface. While the June results likely will be reasonably satisfactory, it is not too early to be concerned over what July will bring. Steps may be taken now that will promote successful results in July, and the taking of such steps seems highly needed. There is a real threat that crude production will not be controlled as effectively in July as in June. Lest this threat materialize into an unpleasant reality, steps must be taken immediately, by the units in the industry and particularly by the state conservation officials, toward national cooperation in holding down crude production during July and the succeeding months.

There was a partial lapse in the cooperative efforts of the oil states in April and May. Better cooperation was manifested in the setting of state allowables for June, and production consequently will be nearer to the Bureau of Mines recommendation. But the June allowables left something to be desired. There was not quite the full spirit of cooperation that seemed particularly desirable under the circumstances. Since the crude oil output of May was so high as to threaten a general collapse of the markets, strict compliance with the Bureau of Mines recommendations in June was needed. Such compliance was undertaken by several states, but in other leading states there was but moderate to slight tightening of control.

Hats Off to Oklahoma and Kansas

Oklahoma and Kansas did all that was asked of them and more. Each adopted a state allowable for June, five percent under the Bureau of Mines recommendation. New Mexico cooperated to the extent that it adopted a June state allowable five percent below the May state allowable, although the new state allowable is 2950 barrels above the Bureau of Mines allocation. Texas cooperated more than it was given credit for in some quarters, by jumping the gun on allowable reductions, cutting back on May 20 about 50,000 barrels from the previous allowable, rather than waiting until June 1. That advance action compensated in part for the failure to come down all the way to the Bureau of Mines June recommendation. Nevertheless the fact remains that for June, Texas is not staying within the federal allocation. As of June 1, the Texas state allowable was 28,783 barrels daily above the Bureau of Mines recommendation. Furthermore, with the allowable increasing with completions of new wells, the average daily allowable for Texas during all June likely will be around 40,000 barrels daily above the federal figure, unless the Railroad Commission again jumps the gun, and revises schedules shortly after its June 18 statewide hearing.

Texas Is Deeply Prorated

Texas must be given credit for having carried out in recent years a generally strict program of production control. Big wells have been choked back to allowables representing mere pittances. Of the state's 61,000 oil wells, 24,000 or about 40 percent are flowing wells. Yet the current allowable of the state, about 1,155,000 barrels daily, means that the average

allowable is only about 19 barrels daily per well. In the East Texas field, where a high proportion of the state's flowing wells are located, the average allowable per well is only a little above 20 barrels daily. Under the latest proration order, even a wildcat producer that opens a new Texas field must not produce over 135 barrels a day. It may be added that under Texas law, a well cannot be prorated below specified "marginal well" allowances, based on depth. Even with the state allowable as high as at present, Texas is crowding those "marginal well" limits, beyond which it cannot go. East Texas wells, for instance, are held down almost to an average of 20 barrels daily, the limit below which they cannot be cut further. When and if many more wells are completed in the big field, the only avenue open will be to let the total field allowable increase.

Louisiana Quotas Attest Texas Restraint

In judging the Texas proration, the degree of restraint now prevailing is particularly impressive in comparison with, for example, the restrictions in Louisiana. While even a discovery well in Texas is held to 135 barrels a day, there are various established fields in coastal Louisiana where wells are permitted to produce from 500 to 1150 barrels per day each. For that large district as a whole, the average allowable is 198 barrels daily per well, the 739 wells on production June 1 having had a combined allowable of 146,225 barrels daily. Following are figures on wells and allowables in some of the Louisiana Gulf Coast fields: Iowa, 51 wells; total allowable 18,000 barrels daily; average per well, 353 barrels daily; Caillou Island, 18 wells, 14,500 barrels total, 805 barrels daily per well; Leesville, 80 wells, 14,250 barrels total, 178 barrels per well; Bosco, 61 wells, 13,250 barrels total, 217 barrels per well; Lake Barre, 26 wells, 9500 barrels total, 365 barrels daily per well; Bayou St. Denis, 6 wells, 6900 barrels total, 1150 barrels per well; Jeanerette, 4 wells, 2000 barrels, 500 barrels per well. It should be noted, regarding the two latter fields, that they are new fields, with only a few wells each. Also, coastal Louisiana operators feel their allowables should be comparatively generous in view of great drilling depths (deepest in the United States) and the marshy terrain and submerged locations that make operations costly. In the Rodessa field of Northern Louisiana, wells currently are allowed to produce 275 barrels daily each. (The Texas Railroad Commission has no other choice but to allow the same amount also in the Texas portion of the field).

Texas Expected to Show Good Faith

Any oil producer transplanted from any other state into the shoes of a Texas operator probably would concede readily that Texas is prorated until the restraint hurts. Similarly, any criticism of the Texas Railroad Commission as regards allowables should be tempered with sympathy. Since the state already is so tightly restricted, considering its potential production and its large number of wells, the commission has an extremely difficult problem in making even a small reduction of allowables. When a meal ticket already is only the price of a hamburger, it is difficult to issue a less expensive token.

Nevertheless, there was considerable disappointment and a little censure when Texas failed to adjust its allowables for June more closely to the Bureau of Mines recommendation. These reactions naturally were particularly discernible in Oklahoma and Kansas. In Oklahoma there was a "What's the use?" feeling, when the state allowable was set 27,625 barrels daily under the federal schedule, only to be spoiled by a Texas allowable 28,783 barrels above the federal allocation. Oklahoma, Kansas, and New Mexico cooperated through the Interstate Compact to cut allowables back June 1, to promote better balancing of production with demand, and since Texas also is a member of the Compact, it was felt Texas similarly should have stuck closely to the Bureau of Mines recommendation, if not cut under the federal allocation.

Under the circumstances, Texas now is on probation. That means, practically speaking, that the Texas Railroad Commission is on the spot. The commission must prove to Oklahoma, Kansas, and New Mexico that it does not have its fingers crossed, in connection with the Interstate Compact and in regard to cooperative efforts among the oil states. The Texas Railroad Commission must accept as sacred the allocation to be given to the state for July on the Bureau of Mines schedule. If the commission does not adopt a July allowable very close to the federal figure, it will be inviting another situation of alarmingly excessive national production. For it would not be at all likely that Oklahoma and Kansas would make self sacrifices again in July, as in June, in the face of another Texas proration program exceeding the federal allocation.

As indicated previously, Texas perhaps does not deserve to be held so strictly responsible for the future of proration and the markets, considering the large degree of restraint that is being practiced. But at the same time, circumstances are such that Texas must exert itself to prove its good faith, and thereby to insure the stable oil markets that mean so much to it. (The state currently produces about 40 percent of the national crude output).

Two States Fail to Cooperate

It is true, of course, that if responsibility were equitably divided, much more would be expected of Louisiana and California in regard to balancing the national production with the national demand. Those states, as well as Texas, Oklahoma, Kansas, and New Mexico, are contributing heavily to the national production; and by reason of sharing in any existing stability of the oil markets, they cannot evade the responsibility of helping to balance the production and the demand. They only can decline to shoulder that responsibility, and that is what has been done, both states having long and consistently produced substantially above the Bureau of Mines recommendations. Louisiana's state allowable for June is 41,275 barrels a day above the federal allocation—the greatest excess for any state. California has no state proration program, nor law authorizing such a program. The California operators' voluntary program calls for a state output 8500 barrels above the federal allocation in June, but past performance indicates that actual production will be around 25,000 barrels a day above the Bureau of Mines recommendation during the month. Both Louisiana and California need oil conservation statutes to make possible the close

[*Continued on page 46*]

THE USE OF EXPLOSIVES IN PROSPECTING FOR OIL

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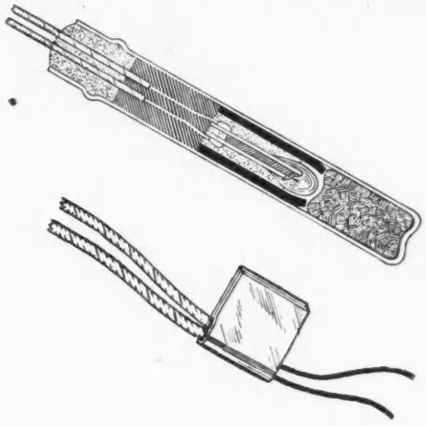

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ATLAS

EXPLOSIVES

CHEMICALS ATLAS EXPLOSIVES

MEN IN THE INDUSTRY'S NEWS

C. W. HUGHES of Shreveport last week was appointed superintendent of the oil producing department of Arkansas Natural Gas Corporation, according to D. W. Harris, vice president and general manager of the company. C. H. Stout, formerly superintendent of oil production for the company in East Texas, was named assistant superintendent. R. W. Sole of Wichita Falls, Texas, was named superintendent in the East Texas field for the company.

IVAN DAVIDSON, assistant manager of Cia. Mexicana de Petroleo "El Aguila" S. A., who was married April 23 to Miss Claire Gempp of St. Louis, Missouri, has returned with his bride to Mexico City.

JOHN G. (JACK) PEW, an official of Sun Oil Company, Dallas, departed last week on a business mission to the West Coast.

LEE SLATER, formerly general superintendent of The Darby Petroleum Corporation, who has been seriously ill at St. Anthony's hospital in Oklahoma City, is recovering rapidly and soon will be able to return to his home.

CLAUD M. KREGER, driller in the Samfordyce field for the past 19 months, has arrived at Maracaiba, Venezuela, to start a three-year contract with Standard Oil Company as driller. "Cy", as he is known by his friends, has had foreign experience previously, having spent 2½ years with Anglo Ecuadorian Oilfields in Ecuador. Mrs. Kreger, after a tour of Continental Europe, will join him.

E. W. SENG, assistant chief accountant of Huasteca Petroleum Company at Tampico, Mexico, accompanied by his family, arrived in the United States the past week for a two-month vacation.

K. M. FAGIN, petroleum engineer for Magnolia Petroleum Company, Dallas, is on a vacation, with Detroit and points in Southern Canada on his itinerary.

E. B. GERMANY, president of C. & G. Oil Company, Dallas, spent part of last week in Lea County, New Mexico, observing the completion of a wildcat producer drilled on a small block held jointly with The Texas Company.

R. H. COE, engineer for Tide Water Oil Company, has been transferred from the East Texas field to Conroe field, Montgomery County, to act in the same capacity for the company. He will replace E. H. Childress at Conroe, who is now at Midland.

H. G. VENABLE, independent operator of Tampico, Mexico, arrived in San Antonio recently, for a stay of several months.

E. H. CHILDRESS, engineer for Tide Water Oil Company, Conroe field, Montgomery County, has been transferred to Midland, Texas, as district engineer for the same company.

R. C. TARRANT, independent oil operator of Cut Bank, Montana, has been appointed by Governor Elmer Holt as chairman of the State Oil Conservation Board, to succeed E. B. Coolidge. Associates reappointed include O. M. Webb, Howard Alger and L. B. O'Neil. Tarrant, active in the development of the Cut Bank play, is well known throughout Wyoming, Kansas and Texas for his wildcat activities.

GORDON C. MacDONALD, formerly with Smith Separator Company, now is with Gulf Oil Corporation, Exploitation Division, with headquarters at Tulsa.

J. F. BRANNAN, West Texas scout for Pure Oil Company, is confined in a hospital at Odessa after undergoing an emergency operation early last week. Paul R. Martin, chief scout for the company in the Fort Worth division, is scouting the Basin territory pending the recovery of Brannan.

TWENTY-SIX officials and guests of Continental Oil Company, making an annual tour of holdings throughout the Mid-Continent and Rocky Mountain areas, were included in the party in the Gulf Coast and South Texas last week. Late in the week, the party left for the Rocky Mountain area, from which it will return to Ponca City, Oklahoma. Included in the party were:

W. W. Brude, vice president; W. H. Ferguson, vice president; George Oids, assistant to President Dan Moran, who was unable to make the trip; Walter Miller, vice president in charge of refining; H. J. Kennedy, vice president in charge of marketing; J. G. Dyer, production manager; H. K. V. Thompkins, manager, land department; T. D. Harris, transportation manager; F. L. Hanks, assistant general sales manager; P. J. Ryan, assistant general sales manager; Joe Dawson, of Tracy-Locke-Dawson, advertising agents, New York; W. H. O'Connor, purchasing agent; G. T. Bodman, general auditor; T. H. Larson, regional sales manager of this district; L. F. Athey, manager, geophysical department; G. C. Clark, chief geologist; E. F. Battson, New York, eastern sales manager; T. R. Batte, Houston, general superintendent, production department; A. K. Tyson, Houston, chief district geologist; P. Riggins, Fort Worth, division sales manager; Joe Thompson, Denver, Conoco travel bureau; R. B. Paxton, production department; C. E. Fehrenbeck, photographer; P. C. Dominic, party manager; Cecil Hewitt, assistant party manager, and Roy McVay, driver.

E. A. WETMORE, auditor of various South American subsidiaries of Gulf Oil Corporation, has returned to New York after a five-month leave of absence and is recuperating from a serious illness.

O. W. SELVIDGE, secretary to the general agent of Mexican Gulf Oil Company at Tampico, Mexico, is on a vacation in the United States.

E. H. COLLINS, general manager of Standard Oil Company of Pennsylvania, also has been made a vice president of the company.

R. H. HARGROVE of Houston, attorney for United Gas Public Service Company, was away from the city June 5.

ENGINEERS HIRED

Texas commission hires graduate students

Austin. — The Railroad Commission announced today that the policy inaugurated last year of employing graduates of local petroleum engineer schools to augment the commission staff would be continued this year.

The commission has taken 14 graduates, who will be assigned to the work of making the semi-annual test of the potential of each Texas gas well as required by statute.

The University of Texas supplied Herbert Karsch, San Antonio; Heath Renfro, Childress; W. H. Flood, Jr., Corpus Christi; A. E. Sweeney, Breckenridge; Albert S. Trube, Austin; John Walke, Longview; W. H. Lewis, San Antonio; Aubrey Broussard, Galveston.

A. & M. College furnished Louis H. Shearer, Austin; W. N. Harris, Dallas; T. G. Post, Montgomery; C. A. Sullins, Waco; A. H. Barbeck, San Antonio.

DIED

JAMES F. BLAKE, well known Tulsa oil man, and general superintendent of Sinclair Prairie Pipe Line Company, died at noon June 1, in a Tulsa hospital. Blake had ben suffering from intestinal ailments necessitating recent major operations. His age was 62. Blake was born in Petroleum Center, Pennsylvania, and studied engineering at that city. He entered the oil game in Oil City and later worked as a telegrapher at Parker's Landing, Pennsylvania. For some time he was associated with his father in the oil business. In 1906, Blake entered the employ of National Transit Company shops at Independence as representative master mechanic for Prairie Pipe Line Company, and in 1912 was transferred to Tulsa. In 1915, Blake and his associate, J. R. Manion, organized Sinclair Pipe Line Company, Blake being general superintendent. Following this company's merger in 1932 with Prairie Pipe Line Company, Blake was general superintendent of the combined companies. Those members of his immediate family surviving are his wife, Mrs. Anna Blake, two daughters, Lucille and Frances, and a son, Marion, each of Tulsa.

JAMES C. YANCY, 63, Fort Worth geologist and operator, died May 31 in a Fort Worth hospital from complications arising rfom injuries received several weeks previous in an automobile accident near Fairfield, Texas. He was associated with a group from St. Austell, England, in drilling a wildcat about seven miles north of Fairfield.

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Scouts Meeting

[*Continued from page 10*]

Humble Oil & Refining Company, Midland, Texas, first vice-president, C. O. Falk, Humble Oil & Refining Company, San Antonio, second vice-president; Dwight L. Becker, Amerada Petroleum Corporation, Houston, chairman executive committee.

After registration and issuing the 1936 year-book, the first business session was opened the morning of May 29 with an address of welcome by Mayor George Sergeant of Dallas, who described the scouts as the eyes and ears of the oil industry. He also gave an interesting talk on the Texas Centennial, which opens here June 6. Two technical lectures were given, and motion pictures in natural colors and telling of directional drilling in California, were presented by C. P. Parson, vice-president, Halliburton Oil Well Cementing Company.

Golf and a bridge luncheon were enjoyed by the men and ladies respectively during the afternoon. The golf tournament, which was won by Marvin Jones, scout for Magnolia Petroleum Company, Houston, was held at Lakewood Country Club. Friday night, May 29, there was a buffet supper and smoker at the Dallas Athletic Club.

Saturday morning, May 30, was occupied by a general business session and election of new officers.

Saturday afternoon's entertainment was a sight-seeing preview of Centennial Buildings and grounds. An informal dinner dance and the awarding of golf trophies by president Bullard closed the 1936 meeting of the National Oil Scouts of America, Incorporated.

The general arrangements committee, who had charge of the entertainment, were as follows: John H. Langston, chairman; John G. Pew, A. J. Cunningham, Ben F. Jones, E. L. Wilson, Howard Boyd, Edward C. Harman and Paul Martin. There were 45 oil companies, independent operators, supply companies, geophysical companies that made the convention possible through cooperation and financial support. The Dallas Petroleum Club extended the scouts and their guests all the privileges of the club, which is located on the roof of the Baker Hotel.

SCOUT OFFICERS

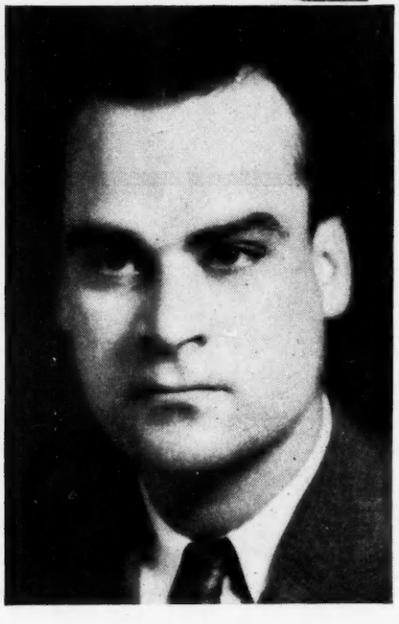
Left: **Claude Strahan, Atlantic Oil Producing Company, Shreveport, president.**

Right: **Maurice Miesser, Phillips Petroleum Company, Shawnee, first vice president.**

Bottom left: **Paul A. Barenkamp, Sun Oil Company, Tyler, second vice president.**

Bottom center: **Howard Boyd, Magnolia Petroleum Company, Dallas, secretary-treasurer.**

Bottom right: **Harry Leyendecker, Tide Water Oil Company, Houston, chairman of executive committee.**



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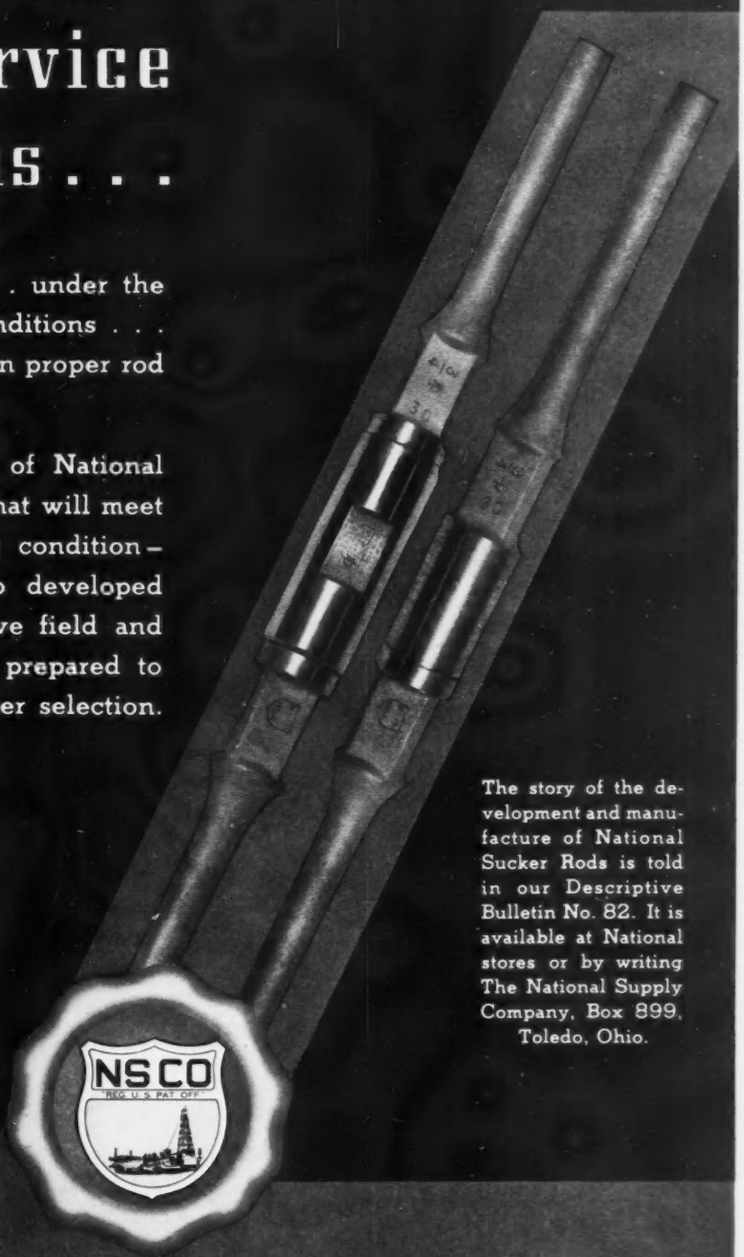

The story of the development and manufacture of National Sucker Rods is told in our Descriptive Bulletin No. 82. It is available at National stores or by writing The National Supply Company, Box 899, Toledo, Ohio.

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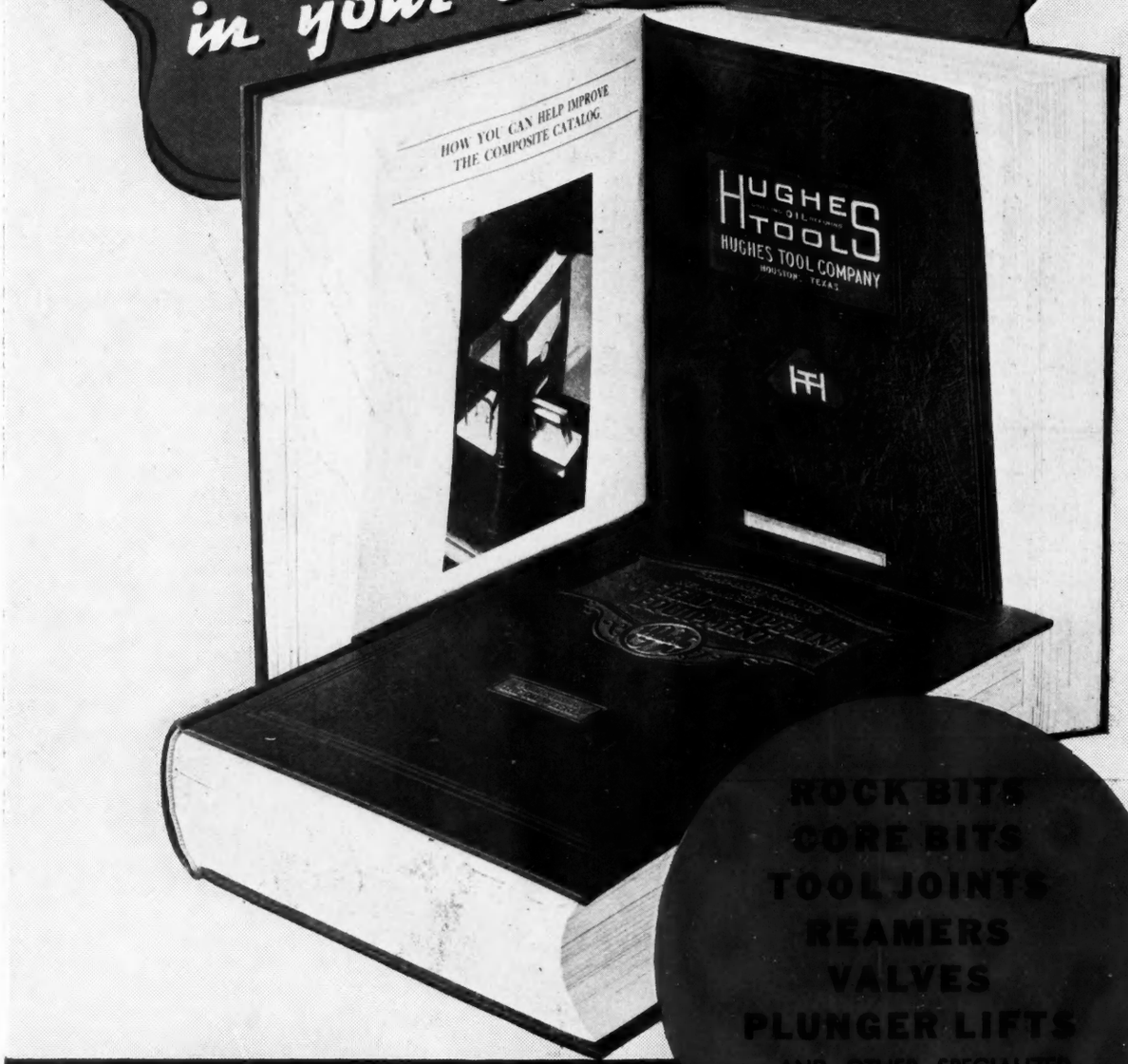

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Deep Well Drilling Problems and their Solution

By K. C. HEALD, Chief Geologist
Gulf Oil Corporation,
Pittsburgh, Pennsylvania

NOT long ago the chief interest in very deep wells probably was inspired by curiosity. This very human trait is by no means confined to the oil industry. Anything of extraordinary size will draw a crowd, stimulate interest and inspire discussion and sometimes emulation. Both children and adults are prone to ignore the other alluring aspects of a circus parade while the elephants are passing. Tall buildings are responsible for many a "crick in the neck," and the necks are by no means the sole property of country cousins. Probably sheer size draws as many to the Grand Canyon and to Niagara Falls as does the silent panoramic splendor of the one or the thundering power of the other.

Today there is a very different reason for interest. The early deep wells were not merely curiosities, they were the graves of great investments, gone, never to return. The credit given for the achievement of setting a new depth record could not be applied on orders for new equipment. Nevertheless the oil operators persisted in their efforts and what to many seemed to be folly has now proved to be wisdom. Huge investment has been compensated by huge return. In the Big Lake field, of Texas, the average yield per well from the deep pays, which lie at a depth of from 8400 to 9500 feet, is in excess of 1,000,000 barrels. Much of California's proven oil reserve is in the Kettleman Hills field which remained undiscovered until an adventurer had the courage to drill to a depth of 7108 feet, and where wells flow oil from a depth of 8300 feet. In the same state wells 6600 feet deep in the Long Beach field, 7800 feet deep in the Santa Fe Springs field and 8000 to 9708 feet deep in the Ventura Avenue field where the world's deepest oil well, Associated Oil Company's Lloyd 83, was completed in 1932 flowing a production of 5500 barrels per day, are important factors in maintaining California's waning production.

In Oklahoma the greatest pool in the state, Oklahoma City, was discovered by an operator who dared to drill in an area where many believed that the rich Wilcox sand was so far below the surface that the value of any oil recovered could not equal the costs of drilling and producing the oil.

In Coastal Texas and Louisiana the production in the Anahuac field comes from a depth of 7100 feet or more, that from Bosco from depths of 8100 to more than 9000 feet, that from Roanoke from 7800 to more than 8500 feet, that from Dickinson from depths of 8000 to 9200 feet, and operators do not hesitate to drill wildcats in areas where the oil bearing formations must be 9000 feet or more below the surface.

Louisiana's most important field—Rodessa—where the limestone pays lie at depths of 6000 feet or more awaited discovery many years while the operators in those parts were vainly drilling all prospects where there was even a glimmer of hope that oil could be found at shallower depth, but now that it has been found the depth has proved no deterrent to prospecting for similar fields at comparable or greater depth.

The roster of important deep fields supplies alluring incentive to the adventurous wildcatter, but even were this stimulus lacking deep drilling would today be in progress. The dregs from depleted fields can contribute pitifully little to the country's refineries that demand two and one-half million barrels a day before their thirst for crude can be slaked. Every day between a million and a half and two million barrels of this country's store of petroleum is literally destroyed. Only by the discovery of new fields can we postpone the evil day when we must either depend on imported petroleum or on synthetic fuel and lubricants to drive and give life to our machines. One of these alternatives would mean the end of the economic independence of this nation, the other must mean higher cost for our fuel and lubricants unless processes far superior to those now know are devised.

THE author prefaces his paper with a brief history of deep wells, and stresses the need for continued drilling of deep wells, mentioning the areas now showing the best prospects for continued or future deep drilling. The advantages and disadvantages of rotary and cable tools for deep-well drilling are discussed, followed by detailed comment on various problems encountered, these including utilization of shallow-pay indications, casing troubles, crooked holes, hard formations, heaving shale, cementing, mud-laden fluid, withdrawal of drill pipe, blow-outs, and coring and other means for testing formations.

The article was presented at the Eastern District meeting of the American Petroleum Institute Division of Production, in Pittsburgh, June 4 and 5, 1936. The statements and opinions expressed are those of the author, and should not be construed as an official action or opinion of the Institute or of this magazine.

Deep Formations Future Oil Source

Where are these new fields to be found? No one looks for great discoveries in the shallow sand areas of the Appalachian, Mid-Continent, Texas or California regions that have been drilled and drilled

again by our fathers and ourselves. True there are some extensive areas of this country where comparatively little oil prospecting has been done, but thanks to the allied sciences of geology and geophysics we know that these are regions of comparatively low promise, at least insofar as shallow formations are concerned, and that the reason they have not been intensively prospected is that this lack of promise was recognized by pioneer oil men and by the geologists and geophysicists who have attempted to assess the prospects of all parts of this great land.

There remain, then, the deep formations in the regions that either are now oil bearing, or in regions where an appraisal of the evidence does not preclude the possible existence of oil pools. In parts of the east there are the deep-lying beds of Dovonian, Silurian and Ordovician age, such as the Oriskany, the Clinton and the Trenton. The prospects of much of eastern Oklahoma and eastern Kansas have been explored to granite, which is the tombstone marking the end of hope for oil production, but in the western parts of those states there are formations that may be oil bearing below the greatest depth yet attained by the drill. For instance, in parts of southwestern Oklahoma the Wilcox sand, which has yielded such a great part of the past production of the state, is probably 16,000 feet or more below the surface. In Texas, Louisiana and California there remain areas that are still "bottomless" so far as our capacity to probe them is concerned, regions where rocks of the same age, and presumably of the same general character as those that elsewhere carry oil, are believed to be at 20,000 feet, 30,000 feet or even at greater depths. There are differences of opinion as to whether oil can exist at these great depths. The writer does not believe it can. But sooner or later proof one way or the other must be furnished by the drill, the final arbiter in disputes of this kind.

The task of supplying the nations needs for petroleum from deep wells perhaps calls for no greater intelligence, ingenuity and skill than did the task that was successfully performed by the pioneers who extended drilling depth from the 69 feet of Drake's discovery well to 1,000 then 2,000, and then 3,000 feet. Just as they had to develop methods and materials to cope with increasingly severe conditions, so much we do today. Perhaps our task is easier than theirs for we have behind us 20 years of the most remarkable scientific advance and achievement in the history of the world, and where once problems had to be met by the ingenuity of capable but unlearned men, today we have the miracle workers of the sciences of physics, chemistry, metallurgy and geology ready and anxious to share the work, and weaving the threads of their sciences into a fabric which we call engineering, to protect us from the storms of deep well troubles.

Perhaps the first of these specific troubles to which serious thought should be given is financial. When a shallow well was lost and had to be abandoned outright or redrilled, no huge investment was involved, but when a very deep well is junked the loss in both money and in time is likely to be a major calamity. If the well reaches its objective the damage is equally great if it is found that conditions are not as anticipated, and that there either is no structure or no pay formation. The first precaution must, therefore, be taken before the first timber is moved for the rig. The location must be as good as geological and geophysical science can make it.

Several massive volumes would be needed to adequately cover the geological and geophysical conditions involved in the various regions where deep drilling has been and will be in progress. Before the final chapter in the history of oil prospecting is written much that is today unknown will be added, for neither geology nor geophysics is a mature science. The problems are difficult and the solutions uncertain. Even with the best work that today is possible there will be many failures, but by good work the number of failures may be held to a minimum.

A good many deep tests have been drilled in old fields where shallow wells proved that structural conditions were favorable, at least so far as the shallow pays were concerned. In some instances the hope that equally favorable structure would be found in depth has materialized, as at Big Lake in West Texas, where the deep field is completely within the limits of the older shallow field. However, had the discovery well not been fortunately located, the deep field might have been missed and the area been thought condemned, for the structure in depth, although sharper, has a substantially smaller oil-bearing area than does the shallow field.

A more recent discovery in Arkansas demonstrates the danger of relying on shallow structure as a clue to what may be expected in depth. Some years ago a deep dry hole was drilled in the Smackover field. This test was excellently located, judging from the structure of the shallow pays. Last month a second deep test, located outside the limits of the old field, came in as a well making gas and distillate, and this test, drilled on a location selected by seismograph work, actually was much higher on the deep pay than was the old dry hole, although on the shallow formation it looked to be hopelessly low.

Observation and description of structural conditions in all parts of the world has permitted a printed record of a myriad of relationships that are possible in folded rocks, and recognition of the probable regional conditions in many instances permits the geologist to predict with great accuracy the positions of deeply buried oil fields if he can secure an accurate idea of conditions in shallower formations. It is rare indeed, however, that a given set of observed conditions will permit a single interpretation. Usually any one of several relationships is possible, and only one of which can be the correct one. It therefore is wise to call on the recently developed tool of geophysics, and particularly on seismograph work, to determine the true conditions. Even with this help, failures will be many, but it makes the chances of success better than they could be if the location were decided purely on the basis of geological inferences, as is testified by the many fields discovered by drilling prospects indicated as favorable by seismograph work during the past ten years.

Even when an anticlinal structure has been correctly mapped the hazards are not all gone, because the pay may prove erratic in distribution. For example, many wildcats drilled during the early development of the Permian Basin of West Texas were failures although they were drilled on very pronounced structure, and it was only when geologists learned that in certain areas the porous beds of limestone that carried oil occurred on the flanks rather than on the crests of the anticlines that con-

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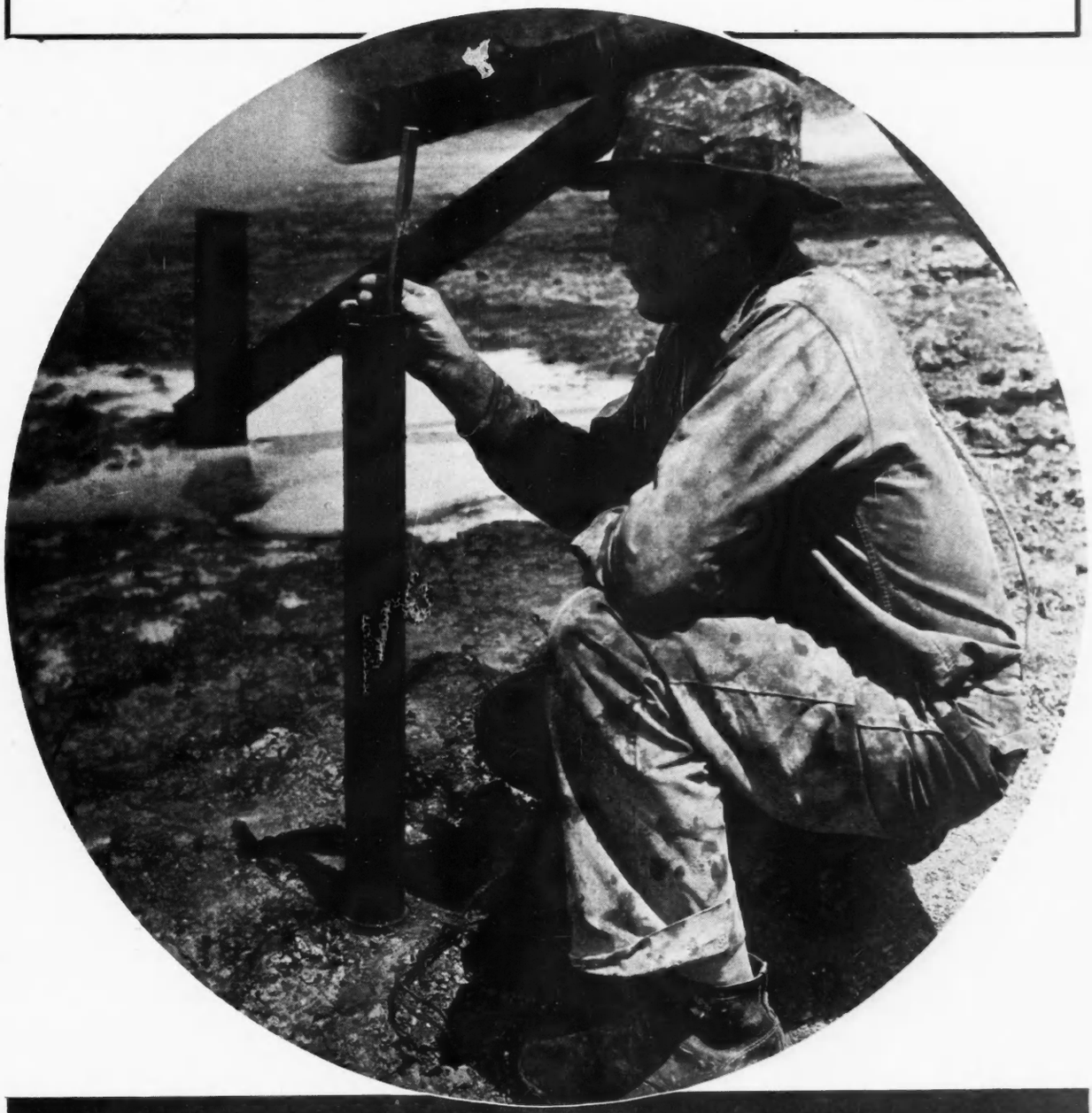

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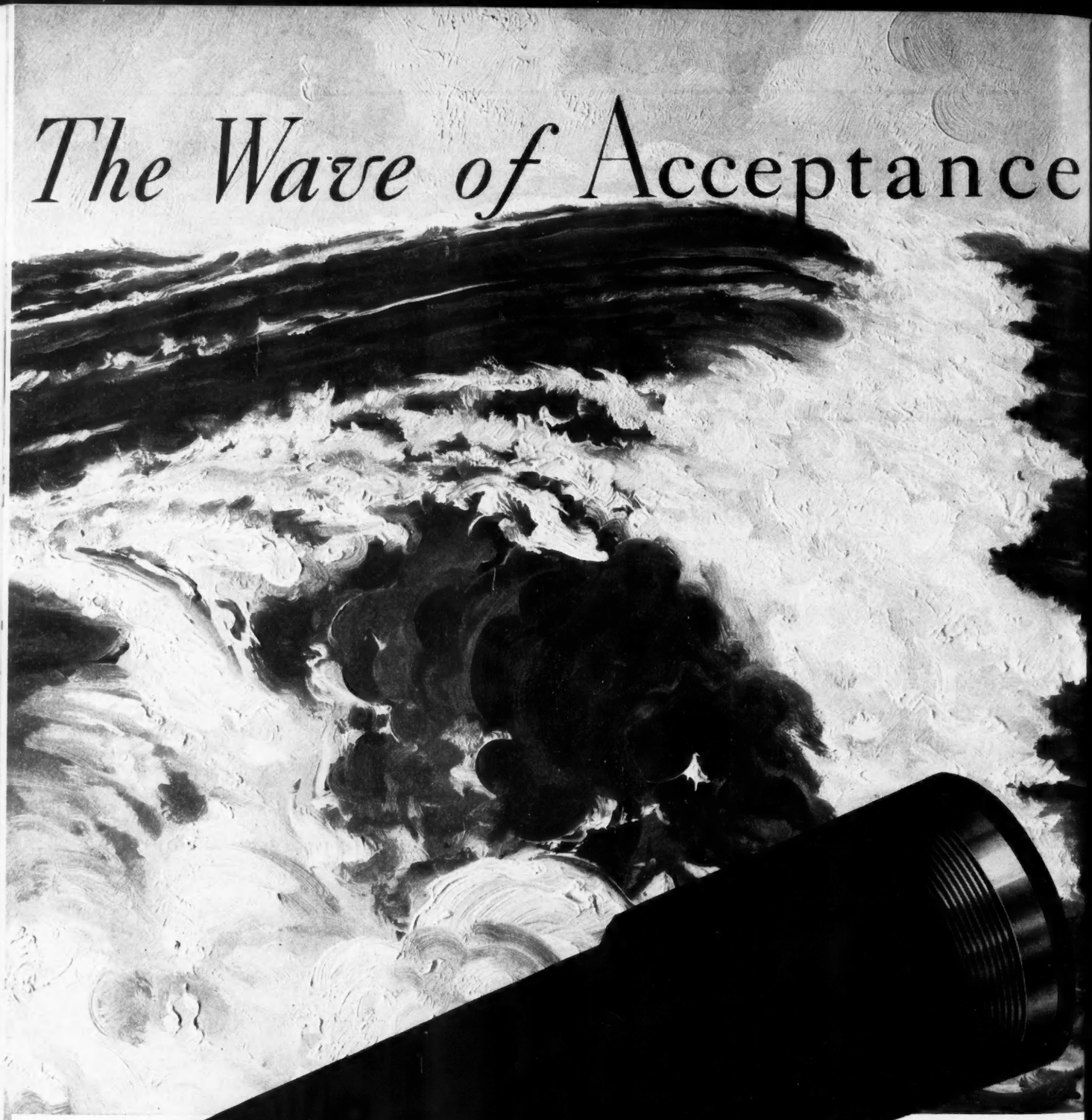

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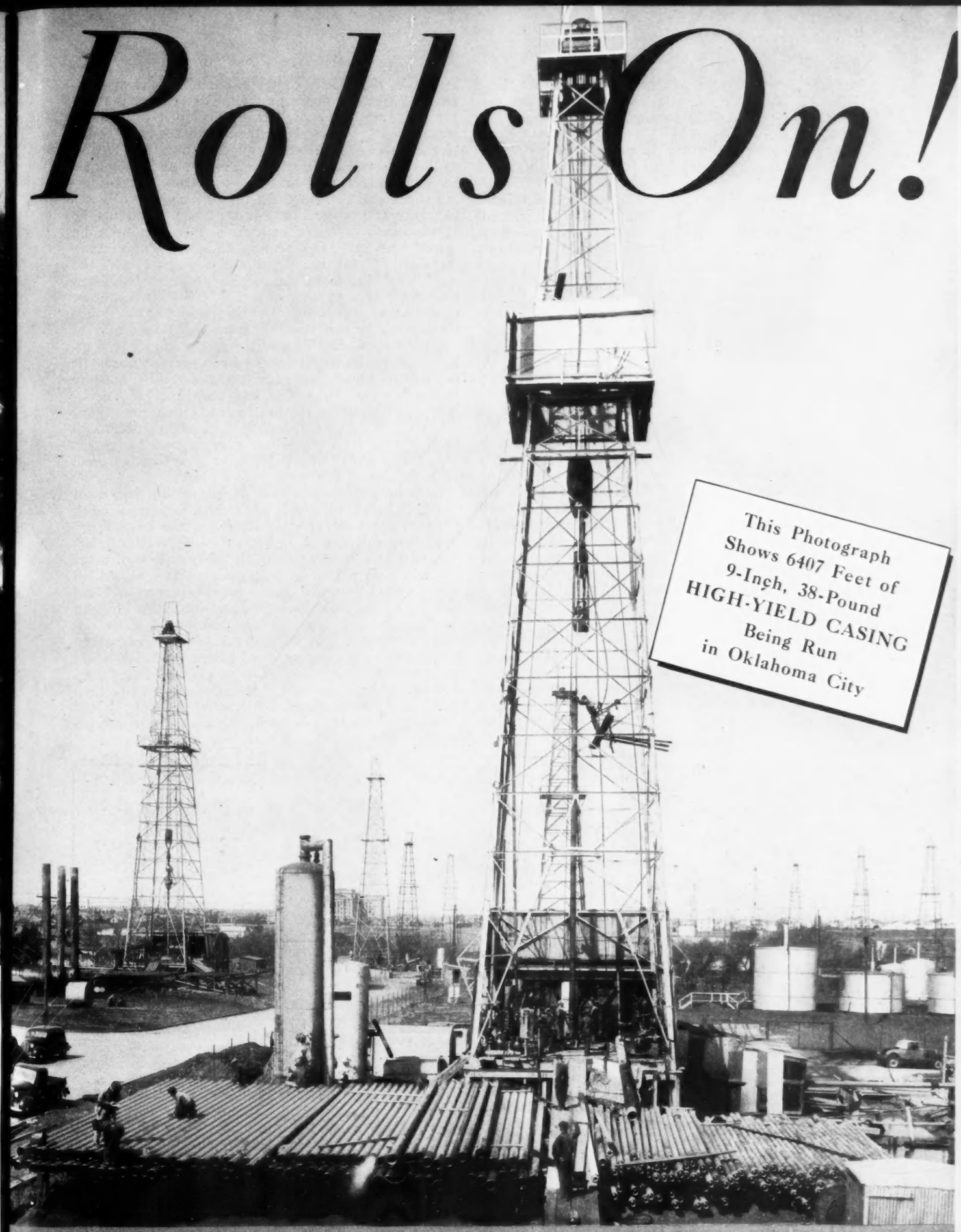

This Photograph Shows 6407 Feet of 9-Inch, 38-Pound HIGH-YIELD CASING Being Run in Oklahoma City

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sistent success became possible. It is true that these fields of West Texas were comparatively shallow, but similar peculiarities may exist in very deep formations.

In fields where the pay is sand the tops of the structure may be "bald," as is true at Oklahoma City. Oil was found on the top of the great anticlinal structure there, but it was not in the Wilcox sand, the great pay of the Mid-Continent. Instead, the drill passed directly from beds that in most places occur above this Wilcox sand into formations that normally are found far below it. The meat in this particular sandwich was gone. As development proceeded, however, and the flank of the anticline was drilled, the Wilcox sand was found, extraordinarily thick and richly productive.

Engineering Difficulties Are Many

The engineering difficulties connected with deep drilling are, in large part, the same ones that have for decades troubled the driller, but they occur in aggravated form and, of course, some of them are new. There should be no more danger of failure of the derrick or other surface equipment in drilling a well to a depth of 10,000 feet than there is in drilling to a depth of 3000 feet. All that is needed is to use equipment that is designed to handle the stresses that such deep drilling will involve. Breakage of this equipment must almost invariably be charged to carelessness, ignorance, or unwillingness to purchase the proper equipment and to hire men who know how to handle it. Equipment is available that is strong enough to permit rotary drilling to a depth of 15,000 feet and cable-tool drilling to even greater depths.

The most obvious obstacle to reaching great depth with cable tools is that the driller will "run out of hole." This simply means that he has been forced to set so many strings of pipe, either to exclude water or to keep the hole from caving, that the diameter of the hole becomes too small to permit running a bit or completing a well. The remedy is to be found in methods now being developed for sealing water sands or for strengthening the caving walls of the hole without setting pipe. A number of companies are working on this problem and chemicals have been developed that will penetrate water-bearing sands and cement them tightly so that no water can enter the hole. There is no question about the effectiveness of the chemicals if they can once be introduced into the waters and, but engineering methods for introducing these chemicals into the sand need improvement. This operation has been performed in a number of wells, but it must still be classified as experimental. The writer has no doubt that before long it will become a recognized part of the technique of cable-tool drilling. Somewhat similar methods are being developed to prevent the walls of cable-tool holes from caving or sloughing, and the cementing technique that has been evolved during the past few years is also, in many instances, very effective. It seems probable that soon cable tool drilling may be undertaken, even in areas where it is certain many water sands will be encountered, without fear of "running out of hole."

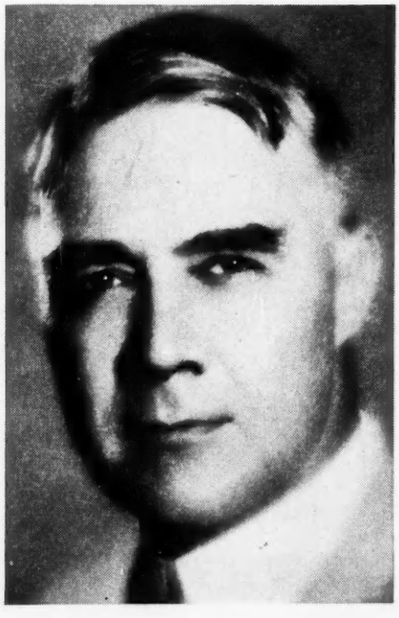
Cable-tool drillers seldom think of the danger of crooked holes, although their brothers who work with rotary tools learned long ago the importance of determining the straightness of the hole at intervals of a few hundred feet. The very nature of cable tools insures a straighter hole than can be drilled with a rotary unless great care is exercised, and seldom does crookedness hinder either the drilling or the production of oil from cable-tool wells not more than 3500 feet deep. Nevertheless, determinations of straightness or crookedness of hole should be begun before the well is more than 3000 feet deep and should be repeated at intervals of not more than 500 feet. If crookedness is detected the hole should be plugged back and redrilled before the condition

K. C. HEALD

Mr. Heald, the author of the accompanying article, is located at Pittsburgh, Pennsylvania, as chief geologist for Gulf Oil Corporation.

He began his geological work in American oil fields in 1908. Heald was educated in mining and geology in the University of New Mexico, Colorado College, and Yale University. He was appointed to the U. S. Geological Survey in 1914, and in 1919 was made chief of the Oil and Gas Section. In 1924, he became Professor of Petroleum Geology at Sheffield Scientific School, Yale, and in 1925 was made chief geologist for Gulf Oil Corporation.

In 1925-26, he was a member at large of the National Research Council, and in 1927 represented the Geologic Society of America on the Council. Currently he is advisor for the American Petroleum Institute's research project on petroleum source beds, and is a member of numerous scientific societies and petroleum industry organizations.



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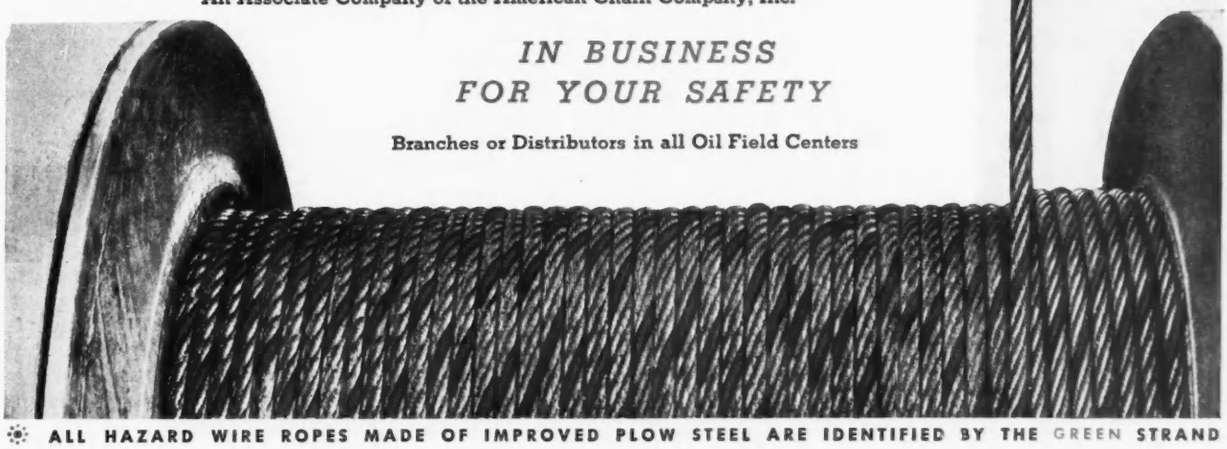

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can become serious. Otherwise there is the danger of wire cuts in pipe set through the crooked section of the hole if much additional drilling is done after the pipe is set and, even though wire cuts can be prevented by the use of suitable protectors at intervals on the drilling cable, the crooked hole will multiply the chances of trouble. This trouble may range all the way from a comparatively simple fishing job due to a broken cable which has been badly worn by rubbing against the casing or the walls of the hole, to an impossible job due either to jammed tools or to casing stuck when it was being run in the hole.

Another difficulty which remains to be satisfactorily conquered occurs when extremely hard beds are encountered. In Gulf Oil Corporation's McElroy 103, the deepest well in the world, there were 800 feet of formation between the depths of 10,165 and 10,965 feet that comprised alternating layers of hard limestone and flint. With the best rotary equipment available it took 196 days to get through these hard rocks. With cable tools it might have been impossible to do so, since the flint is harder than ordinary drill steel, and the individual beds were so thick that they would not shatter. The only type of drill that can effectively make hole through rocks of this type is the diamond drill, using either diamonds or some synthetic hard material. It seems likely that some adaptation of a diamond drill for use when such formations are encountered will be worked out if it becomes important to drill a great many wells through very hard rocks. Core heads of this type were successfully used by Gulf Oil Corporation in a deep well in Venezuela when ordinary rock bits failed.

Drilling, reaming, under-reaming and fishing with cable tools at great depth all call for a greater degree of skill than in shallow drilling. Not only are the tools so far below the surface that the signals they telegraph up the cable become faint and hard to understand, but the stretch of the cable increases. Changes in length and speed of stroke may make much greater differences in effectiveness than in shallow drilling, and some of the delicate operations demanded for effective fishing operations are almost as difficult of performance as threading a needle while wearing a pair of mittens. However, the essential methods are not modified.

Heaving shale, which is one of the greatest obstacles to deep rotary drilling in soft rocks, rarely is encountered in territory where cable tools are appropriate. Few cable tool men know what it is like to pull out of an 8000-foot hole and when they run back in to find the bottom only 6500 feet down. However, heaving shale is a possibility in cable tool country. If it is encountered it should be possible to handle it by an adaptation of the same methods that are now being used in rotary drilling. The essential thing is to keep the heaving shale from coming in contact with water, so some other type of drilling fluid must be used. An oil man naturally thinks of oil, but greater success has attended the use of sodium silicate or water glass.

Temperature increases with depth, and very deep wells in some areas will have to deal with temperatures of more than 300 degrees Fahrenheit. Such high temperatures should not affect drilling speeds or action of the tools but must be considered if pipe is set and cemented, since temperature affects both the time of initial set and the strength of cement.

Long strings of pipe must be run in every deep well where production is encountered or even rather definitely anticipated. It is interesting that no trouble was experienced in running and cementing the two longest strings of casing in the world. These are the 10,301-foot string of 7⅝-inch, 34-pound, casing set in the Gulf's McElroy 103, in Texas, and the 10,815-foot string of 6⅝-inch, 26-pound casing set in Union Oil Company's Lillis Welch 1, in California. These records show that it is perfectly feasible both to handle the pipe and to get a good cement job at great depth and suggest that if cement jobs at shallower depths were performed with equal care there would be fewer failures. In the McElroy well 1000 sacks of cement were used.

Since high temperatures hasten the initial set of the cement there is danger that it may harden too promptly. This might interfere with getting all the cement that is desired behind the pipe or result in a poor cement job—one that is strong in some spots and weak in others. To guard against too quick an initial set it is customary to use cool water in mixing the cement. On the deep Gulf Oil Corporation's well the water was chilled with ice to a temperature of 40 degrees Fahrenheit. In some instances cold water is circulated ahead of the cement in order to cool the pipe, but successful jobs in hot areas indicate that this is not necessary.

Chemicals may also be added to retard the time of initial set of the cement. One of the common chemicals used for this purpose is gypsum, but it must be handled cautiously, because if more than 6 percent by volume of gypsum is added to the cement the effect will be exactly the opposite of that which is wanted. In other words, too much gypsum will hasten rather than retard the time of initial set.

Special oil well cements are, as a rule, more finely ground than the cements used for ordinary construction. This is desirable in shallow wells where a quick set is wanted, but in deep wells a more coarsely ground cement should be more suitable.

Since cement is a mixture of a number of different mineral constituents, it is possible by changing the percentages of the different constituents, to modify the action of the cement. By such changes the time of initial set can be either retarded or increased. This is a rather complex chemical problem but one that certainly is not beyond the capacity of our chemical industry today and it is to be expected that special cements, more suitable for use in oil wells under high temperature conditions than any of the cements now available, will be developed.

Rotary Drilling Work

At present the record for depth is held by rotary tools and it seems likely that most of the future deep drilling will be done with such tools. This is not so much because cable tools are incapable of attaining great depth as because the areas in which there are chances of rich oil fields at great depth are, for the most part, more suitable for rotary drilling then for cable drilling.

Furthermore, the rotary tool has certain advantages that will be difficult to duplicate in the cable tool. Outstanding among these advantages is the ability to secure cores of the formations that are penetrated. Some wildcat wells are cored continuously for thousands of feet. It is true that special bits for taking cores with cable tools have been designed but none of the designs now on the market can secure cores of soft formations comparable to those taken by

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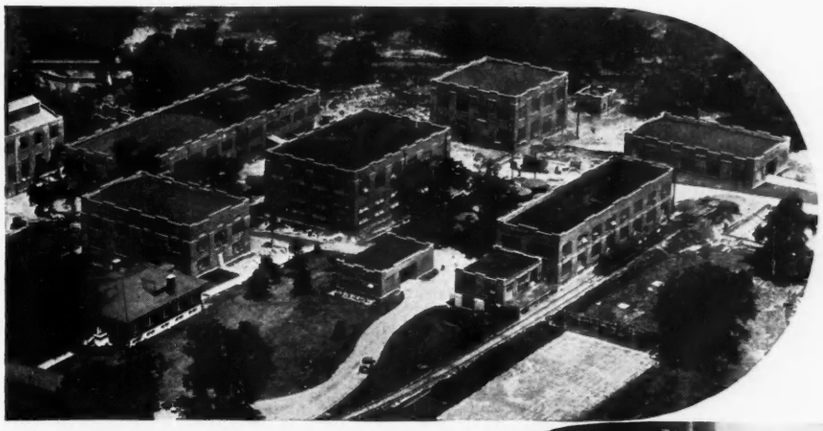

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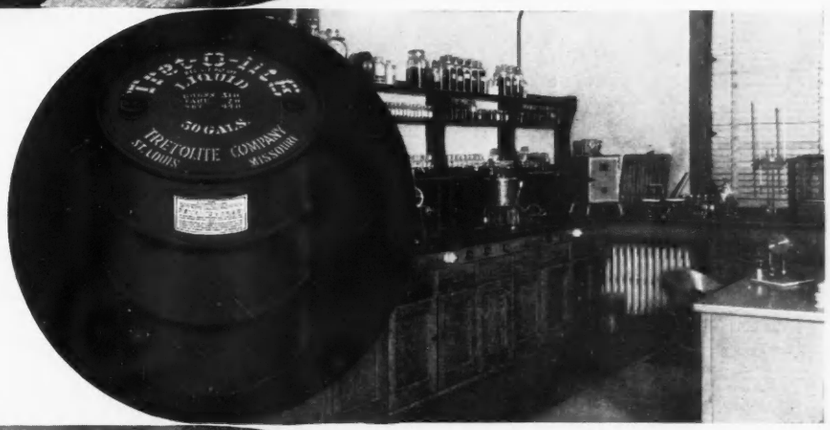

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rotary tools, and even in hard formations the rotary cores are far superior. The cores not only permit identification of the various formations penetrated, but they furnish evidence concerning the nature of any oil or gas pays drilled. Such core samples will even permit an approximate estimate of the porosity and permeability of the oil pays and thus permit an idea of the possible amount of oil present and an estimate of the recovery.

Another advantage of rotary tools is speed, particularly in soft formations. It is by no means unusual for a rotary well to make 1000 feet of hole in a day when it is drilling in soft formations at comparatively shallow depth, and wells more than 7000 feet deep have been completed and equipped to produce in as little as three weeks time.

A third advantage of the rotary tool is the control furnished when oil, gas or water under great pressure is encountered. The combination of mud and pump pressure that is available when rotary tools are being used is adequate to control any oil or gas pressure thus far encountered.

The design of the tools, the availability of special appliances and the experience that has already been gained in deep drilling, combine to give rotary tools and their operators an advantage in deep drilling. One of the difficulties that remains to be effectively overcome occurs when very hard beds are encountered. The present technique is to use rock bits faced with hard materials and by perserverance to grind through the hard layers. The ability of these rock bits to penetrate very hard rocks does not compare favorably with diamond drills and, as mentioned earlier in the paper, it seems to the writer that sooner or later some adaptation of the diamond drill will be made available if extensive areas containing such hard beds are to be prospected.

Regardless of the character of the rocks, it is now known that the weight on the bit must be controlled with care. This is essential in order to avoid danger of damaging the drill pipe or of sticking the bit with resultant twistoffs. If too much weight is imposed the flexible drill pipe bows out against the wall of the hole and is injured. All deep wells are, therefore, equipped with weight indicators which tell the driller how much weight is being carried by the derrick and how much rests on the bit.

Another difficulty to be guarded against when using rotary tools, which is not found in cable tool drilling, is the possibility that circulation of the mud fluid will be stopped. The drill cuttings are, of course, removed from the bottom of the hole by mud which passes down the drill stem and rises in the annular space between the drill stem and the walls of the hole. When drilling is in progress the mud between the drill stem and the wall of the hole contains a large amount of fragmental rock and if the circulation of the mud is stopped these rock fragments will tend to settle to the bottom of the hole and jam the drill stem. This difficulty has been overcome in part by the good work of chemists who have developed muds which change from a fluid into a jelly when they stop moving and which break down from the jellylike form into fluid again as soon as they are agitated. The jellylike consistency of the quiet mud holds the cuttings in suspension and prevents them from settling to the bottom of the hole. However, this precaution is not adequate to completely insure against trouble and on deep and critical holes it is desirable to have standby equipment which can be put into use immediately in the event of the breakdown of some such vital item as an engine, or a slush pump.

Heaving Shale is Important

Heaving shale has stopped many attempted deep tests in areas where the formations are soft. Inside the limits of some known oil fields in the Gulf Coast there are local areas where practically every effort to penetrate the heaving shale to pays that are believed to underlie them has been defeated. Recent developments in drilling technique, however, have resulted in an increased measure of success. For example, Continental Oil Company's Moody 2-A well, in Calhoun County, Texas, successfully penetrated 2000 feet of heaving shale between the depths of 6000 and 8000 feet and set a string of 8⅝-inch casing at 8021 feet. The Pure Oil Company in its Page 1, Wharton County, Texas, encountered heaving shale at 7676 feet and drilled through it without any particular difficulty to below 9000 feet.

It is a truism that if the shale does not begin to heave no trouble will be encountered. The drilling technique, therefore, is designed to prevent the shale from ever starting to come into the hole. The shale heaves because it swells to several times its original volume when it is wet with water. In other words, this shale absorbs water from the drilling mud and the combined pressures of the column of drilling mud and the pump cannot counteract the pressure developed by the swelling of the shale.

To prevent wetting this shale, sodium silicate (ordinary water glass), instead of water, is used in mixing the mud. Sodium silicate is not absorbed by at least certain types of heaving shale and, therefore the tendency to swell is overcome.

As additional precaution, every effort should be made to maintain pressure on the heaving shale at all times. When the drill pipe is withdrawn from the hole in order to put on a new bit, or even when it is partially withdrawn in order to install a new stand of drill pipe, it is believed that swabbing action takes place which may momentarily lower the pressure in the bottom of the hole. It follows that the drill pipe should be kept on bottom as much of the time as possible and when it is withdrawn it should be pulled very slowly, at least for the first several hundred feet.

In order to keep the drill pipe on bottom, collapsible bits may be used. These bits are dropped from the surface on a wire line and are withdrawn without pulling the pipe. Their use requires special drill pipe, or the operator may have recourse to drilling with casing. If collapsible bits are not used the drill stem will, of course, have to be pulled whenever it is necessary to change bits, but it need not be pulled to obtain core information if core bits of the Reed, Barrett-Robishaw type are used. Such core barrels are inserted and withdrawn by the use of a wire line through the drill stem. Use of these core barrels requires tool joints with full clearance to permit passage of the core barrel. A special type of bit also is used.

Emphasis has also been placed on the importance of maintaining mud circulation at all times when drilling in heaving shale. It is not definitely known that this is necessary but theoretically it seems desirable. Mud circulation can be maintained with very little interruption by the use of what are known as

continuous circulation tool joints, which permit maintenance of mud circulation through a tool joint when the regular gooseneck at the top of the kelly is disconnected.

Continental Oil Company and Pure Oil Company insured against any interruption of operations by providing standby units, duplicating every critical part of their surface equipment, such as draw works, boilers and mud pumps, so that in case of breakdown the spare units could be put into operation without any delay.

Trouble with crooked holes is almost an everyday occurrence with rotary drilling. This does not mean that every well drilled with rotary tools has a tendency to become crooked but the daily drill report of any company operating twenty or thirty strings of tools is likely to mention at least one crooked hole. Such trouble does not need to be serious, although it may be somewhat expensive. It is like certain diseases which, if taken in time, are easy to remedy, but which may be fatal if treatment is delayed. The important thing is to recognize the condition before it becomes serious. This can be done by making measurements every few hundred feet to determine the verticality of the hole. If the hole begins to depart from the vertical the condition may, in some instances, be remedied by reaming the hole to as large a diameter as possible and then making new hole with very little weight on the bit so that the drill pipe tends to hang vertically. If the condition becomes aggravated the only safe course is to plug back to some point in the hole above the crooked section and redrill. This may have to be done two or three times before the condition is cured.

Blowouts have been responsible for the loss of a good many wells. They are, of course, serious in any well, shallow or deep. The tools may jam in such a way that they cannot be recovered. There is always the danger of fire. Sand accompanying the gas responsible for the blowout may cut the surface connections so badly that the well cannot be brought under control, even if surface casing is properly set and cemented so that a crater cannot form around the well. In some instances wells have flowed out of control for months following a blowout.

Blowouts can occur only when the weight of the mud plus the pump pressure becomes less than the pressure in the pay. This might be due to using mud that is too light. More frequently it occurs when gas gets into the mud, fills it with gas bubbles and reduces the weight of the mud column. Many blowouts occur when drill pipe is being pulled. This strongly suggests that the swabbing action of the bit, when pulling the pipe, has temporarily reduced the pressure in the bottom of the hole, or that the drillers were careless and did not keep the hole full of mud as they pulled the pipe.

To guard against this disaster, the mud must constantly be watched and at the first sign of gas-cutting fresh mud must be circulated until the gas is completely under control and the mud is of normal weight. Hourly checks on the drilling mud should be made to determine its weight and consistency.

Connections that will allow the well to be shut in instantly and surplus pump power to permit heavy pump pressure to be added to the mud pressure will give added insurance. The well should, of course be equipped with efficient blowout preventers. In the past it has usually been thought sufficient to install a single blowout preventer with rams that will close tightly around the drill pipe. A single preventer, however, will not permit the drill pipe to be either withdrawn from the well or lowered to bottom unless the well first is killed. The more foresighted operators now use two blowout preventers, one above the other, with enough space between the two so that the pipe can be lubricated in or out of the hole, the rams on one preventer being opened to permit the passage of the tool joint while the rams on the other preventer are closed around the drill stem. Drill pipe can, of course, be withdrawn or lowered to bottom through a single preventer without first killing the well if external flush joint drill pipe is used.

In some instances a deep test reaches its objective and the cores indicate that instead of encountering the top of the deep structure, as desired, the well is located below the water level on the flank of the structure. For example, the cores from the expected pay may show a steep dip. Since the beds exactly on the top of structure lie flat such steep dips in the cores demonstrate a flank location. A failure may be converted into a success if the location of the top of the structure with respect to the test is known, since methods are now available for deflecting the hole in any given direction. For example, a test 8000 feet deep might be plugged back to 6000 feet and deflected and the new deflected hole could test a point a thousand feet horizontally from the original bottom of the hole. However, such a deflecting procedure has more chance of failure than of success unless the operator can learn the direction in which he should direct his hole.

This can be done by simply surveying the original hole, then plugging back, perhaps 500 feet, setting whipstock, coring forty or fifty feet of deflected hole at as sharp an angle as possible with the original one, and then surveying the new crooked hole. Computations on the dips observed in the cores from the original straight hole and those in the cores from the new crooked hole will determine the direction of dip.

Such a procedure is quite expensive and it is, therefore, gratifying to know that two separate methods, known as the Lynton and the Macready methods have been developed in California, whereby observations on a single core can, in many instances, determine aproximately the direction of dip and tell the operator the direction in which he should deflect his hole in order to drill into the pay at a more favorable structural position.

Many Oil Sands Overlooked

One of the great dangers in rotary drilling is that good oil pays will be overlooked. Many tests abandoned as dry unquestionably have drilled through oil pays that would have yielded commercial wells. This has been demonstrated not only by new drilling on previously abandoned locations, but also by completions of good wells in strata that were penetrated and that were ignored as having no promise when the well first was drilled. For example, the April issue of the Petroleum World comments on the Twentieth Century Oil Company's Calnan 1, about one-half mile northeast of the former productive limits of the Huntington Beach field. According to the account in the Petroleum World, this well was drilled in 1927 to a depth of 5157 feet. Coring showed

some oil sands but no production was secured and the well remained idle, with fluid in the hole, until 1936 when a test of the hole, made with an instrument called a "geoanalyzer," indicated oil sands from 4445-4472 feet. The well was plugged back to 4478 feet and completed with an initial production of 250 barrels per day. How good it would have been if it had been completed years ago, before fluid had stood on the pay for a great length of time, is, of course, a matter for speculation.

In the Pierce Junction field, of Harris County, Texas, Harrison and Abercrombie's Ritter 4-B was drilled to 5800 feet. It was then plugged back to 3674 feet, where it was completed making 109 barrels per hour of pipe line oil. Obviously the drillers had no idea that any such well could be completed in the 3674-foot horizon or the test would never have originally been drilled to 5800 feet.

On the Leesville dome, in La Fourche Parish, Louisiana, Lincoln Oil Company drilled one of its wells on the E. S. Bernard lease to 5106 feet. Later it was plugged back and recompleted at 3765 feet and at this shallow depth was good for 1100 barrels of pipe line oil per day. Obviously the possibilities of this pay were not appreciated when the well was drilled. In the same field, The Texas Company drilled No. 19 L. L. & E. to 4488 feet. It was then electrically surveyed, plugged back and recompleted at a depth of 3262 feet, at which depth it was good for 1100 barrels per day.

These are merely a few examples of the difficulties involved in recognizing the capacity of oil pays to produce. There are even instances where wells, in which no showings were reported by the drillers, were completed as good oil wells following a survey by some electrical method, such as the Schlumberger.

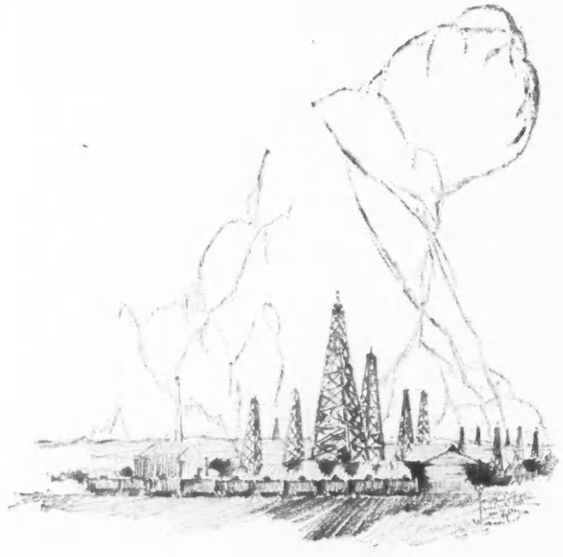
To prevent any such oversight, the first precaution is to core very generously. However, even with the best coring now possible, recovery is far from 100 percent and the parts of the cores that are not recovered may be critical.

The second precaution is to make drill stem tests of showings even though these showings seem to be unimportant. Naturally the driller would like to see a really promising thickness of oil sand or other definite evidence that he has a chance to complete a commercial well before he sets pipe, since this is expensive and also decreases his chance of reaching greater depth by reducing the size of the hole. There are now available a good many different types of testers which can be run on the bottom of drill pipe to indicate the possibility of commercial production. However, these devices are still far from perfect and many attempts to ascertain the possibilites of an oil showing fail.

As a further precaution it is now customary to run a test with the electrical method. These tests have revealed many oil pays that were completely missed in drilling the well. Even these devices, however, are still far from perfect. All that can be done is to take advantage of all the improvements in technique which the developments of the past few years have made available.

Finally, the use of the gun perforator has permitted salvaging many wells that a few years ago would have been abandoned as failures. Even though pipe is set and cemented in a well, it does not today mean that oil showings cemented off behind the pipe cannot be tested, since gun perforators that can shoot holes through even two or three strings of pipe with intervening cement have been perfected. If the sand at the bottom of the hole fails to yield commercial production the test can be plugged back with cement inside the casing and any showing that has been noted while drilling was in progress, or that has been indicated by a Schlumberger survey, can be tested by perforating the pipe.

This paper does not list, by any means, all the troubles, but enough has been said to furnish some idea of the sorrows that may be in store for the daring driller. Even were it possible to catalog every possible source of trouble today, doubtless some new ones would appear tomorrow for, like the diseases that afflict mankind, no sooner is one conquered than new ones seem to be discovered. However, just as courage and ingenuity and science have in the past steadily increased the depth limits of safe and easy drilling, so will these same agents of progress come to our assistance in the future and we may confidently predict that if deep pools, adequate to indefinitely take care of the Nation's need for oil, exist, these pools will be discovered and developed and the oil will be made available when it is needed.



Repressuring Lime

PRODUCING AREAS IN KENTUCKY

By NEWELL M. WILDER, Petroleum Engineer,
State Department of Mines and Minerals
Lexington, Kentucky

THE author discusses the problems and methods of recovering petroleum by repressuring a specific type of rock, namely, limestone. The writer is not aware of any previous publications dealing with secondary recoveries in this specific type of reservoir and accordingly it will be assumed that the information presented contains new theory and practice. A comparison is made between a limestone and a sandstone reservoir as regards the structure of the rock which incidentally has a direct bearing on the permeability. The paper attempts to show that the problems differ from sandstone repressuring in so far as regular patterns would not always prove successful; outlines of affected areas would be extremely different in most cases. Calcium carbonate sealing the walls of the wells makes shooting or the drilling of new wells advisable. Difficulties experienced in presenting a satisfactory permeability profile are discussed with reference to core recovery and the type of core analyzed.

This paper was presented before the Eastern District meeting of the American Petroleum Institute Division of Production, Pittsburgh, Pa., June 4 and 5, 1936. The opinions expressed are those of the author and should not be construed as an official action or opinion of the Institute or of this publication.

THE problems encountered in repressuring limestone reservoirs for their oil content are interestingly different from those of sand and shaley sand reservoirs. These differences would be expected, however, inasmuch as the characteristics of the two types of rock are strikingly the opposite. In the sandstone type the rock is made up of a series of different sized sand grains held together by some common binder. The spaces or openings between the grains are the pores and collectively are referred to as the reservoir capacity. On the other hand, limestone rock has no grains to form pore openings; it is all binder or cementing material. Porosity is made possible by leaching or acid solutions dissolving part of the rock. The pore spaces then are cavities and these range in size from a pin point up to two and three inches in diameter. Peculiarly enough the cavities of certain horizons are filled with soft magnesium carbonate and sand and are usually highly saturated. Some limestones are uniformly leached so that they resemble a honeycomb and are commonly known as "honeycomb pay."

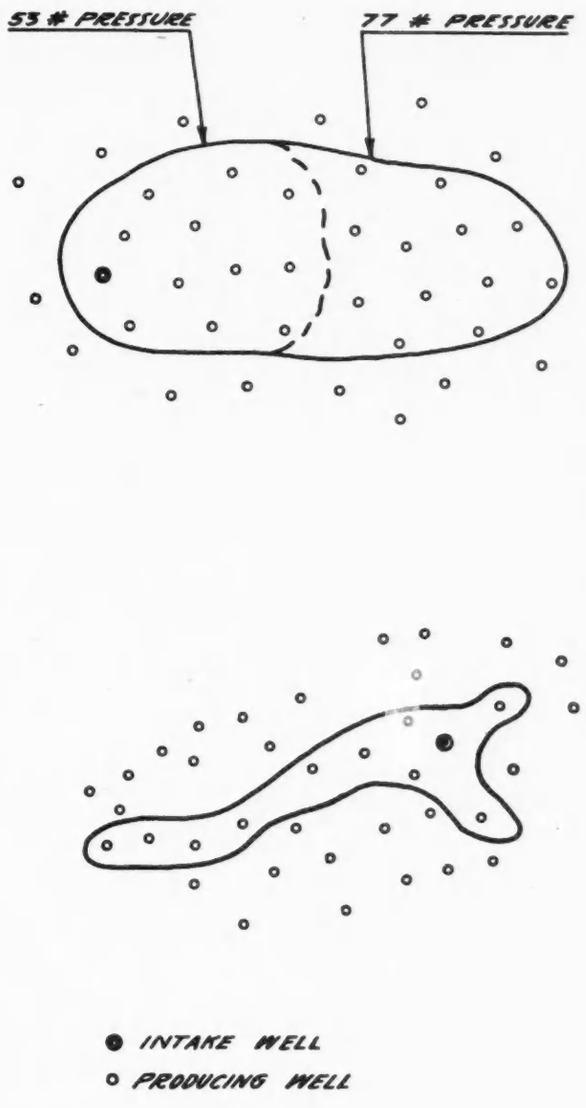


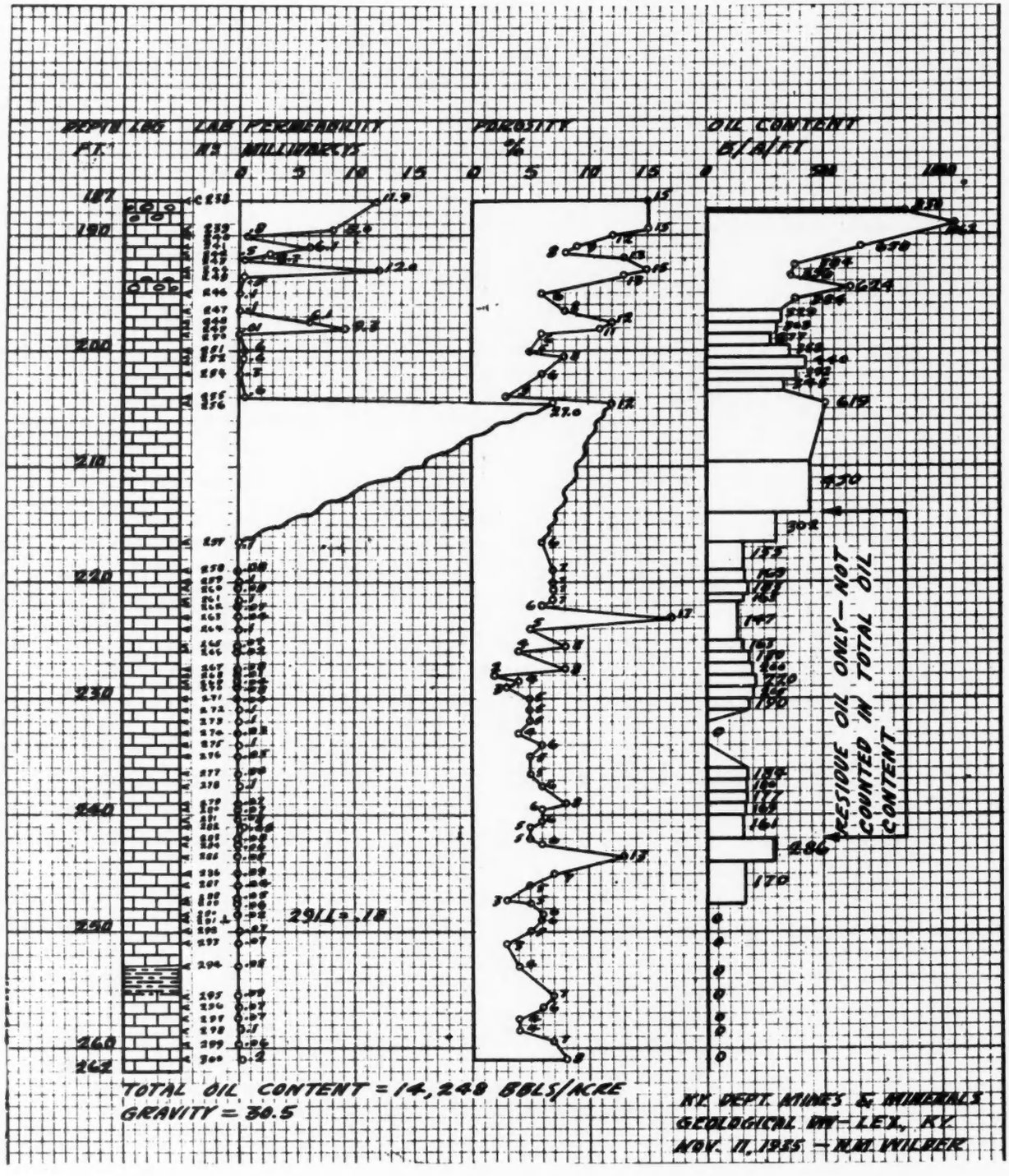
FIGURE 1

Practices in repressuring and the results attained indicate that there is a lack of uniform or continuous interconnection between these cavities in certain fields in Eastern Kentucky. Moreover, laboratory charts on permeability show great differences from one foot to another. Discontinuity of permeability is further evidenced by the fact that frequently new wells are drilled between old producers that are now making less than a barrel a day after 17

years of production, with the result that production from the new wells approaches that of the old wells when they were first drilled in.

From the foregoing it is easily seen that drainage enters into the problem from the start and thus that factor involving the spacing of wells because an important question also in repressuring a limestone. It is granted that spacing factors in sandstone repressuring can be uniformly controlled in as much as radial flow, comparatively speaking, can be expected in such a reservoir. When we find, however, that in limestone repressuring directional flow trends are more generally set up, spacing of producing wells and pressure wells is necessarily limited to these trends. It would be uneconomical to carry out a system of pattern spacing where all wells would not be affected. Generally speaking, close well spacing has made primary recovery more efficient than otherwise. One lease in Eastern Kentucky producing from the so-called corniferous lime had a spacing of 0.9 acre per well and produced 17,500 barrels per acre, while an adjoining lease with a spacing of 2.9 acres per well produced only 6934 barrels per acre. On the first

FIGURE 2


DEPTH LOG FT.
LAB PERMEABILITY K3 MILLIDARCYS
POROSITY %
OIL CONTENT B/A/FT
RESIDUE OIL ONLY — NOT COUNTED IN TOTAL OIL CONTENT
2911 = .18
TOTAL OIL CONTENT = 14,248 BBLS/ACRE
GRAVITY = 30.5
KY. DEPT. MINES & MINERALS
GEOLOGICAL DIV. — LEX., KY.
NOV. 11, 1935 — R.M. WILBER

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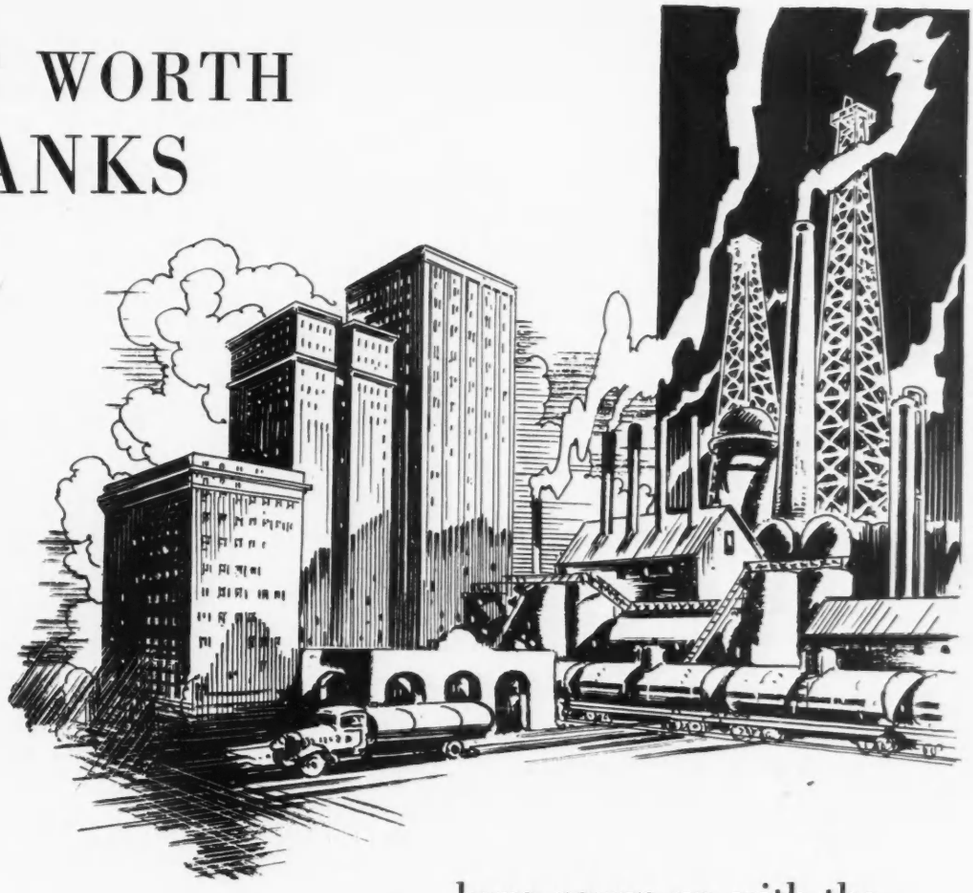

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lease 18 months were required to recover 70 percent of the production, while on the second lease 4½ years were required to recover the same percentage. Comparisons between other leases have shown similar results.

In Eastern Kentucky where a progressive campaign of limestone repressuring is under way the spacing has been from four to six hundred feet, more or less, and it is now recognized that this was too great. Rugged topography has hindered a more intense drilling campaign. This spacing, however, has proven very nice for pattern repressuring as new wells are being drilled between old producers, thus making the spacing from two to three hundred feet and over.

In general operators have endeavored to follow straight pattern drilling wherever repressuring projects have been attempted, with futue plans for blanketing the formation with such patterns. The most popular types are the five-spot and the seven-spot. The nature of the land surface or topography may tend to stretch these patterns so that productive spots are left undrilled. Although it is believed that systematic drill patterns are essential in proper extraction of the oil, the writer believes that individual patterns suited to each directional flow trend as determined by experimental pressure wells will prove more beneficial in repressuring limestone producing areas. Figure 1 shows a typical flow trend in limestone with the pressure well at one end; notice the rather regular spacing of wells and the very irregular outline of the affected zone. The pressure well is located at one end of the outline with producing wells extending three-quarters of a mile in one direction. Similar cases are recognized in other producing areas in eastern Kentucky. This illustration shows that anything but radial flow is approached, and therefore, it would be inadvisable to work with blanket patterns. It is entirely possible, however, that local spots may have interconnected cavities in such a way that radial structure would be approached.

The outline as shown in Figure 1 represents a streak or restricted area of interconnected cavities, and permeabilities are necessarily high in these. Due to such occurrences, frequent as they are, air and gas control becomes a problem which requires constant attention. Channeling would become a constant danger which is offset to some extent, however, by the low pressures required to inject the air and gas volume. Our purely dolomitic limes with the magnesium carbonate cavity fillings are usually repressured with from 20 to 50 pounds of air, depending on the permeability, the saturation remaining the same. This provides for approximately 700 cubic feet to 800 cubic feet of intake volume per foot of pay. Anything materially greater than these has brought on channeling dangers and pressures are necessarily cut back with producing wells back-pressured.

The so-called corniferous formation consists of three pays. The first and third are limestone and the second, which for a number of years was thought to be limestone, we have determined to be a limey sand with occasional limestone streaks.

Practically all intake wells in the limestone areas of Kentucky are first cored and analyzed. Diamond drills and core bits are both used and each has its advantages.

Cores and laboratory analyses are essential and give the solutions to many problems which have been unanswerable in the past. In the laboratory the type of core to be analyzed is of considerable importance in so far as it is often difficult to furnish the operator with a

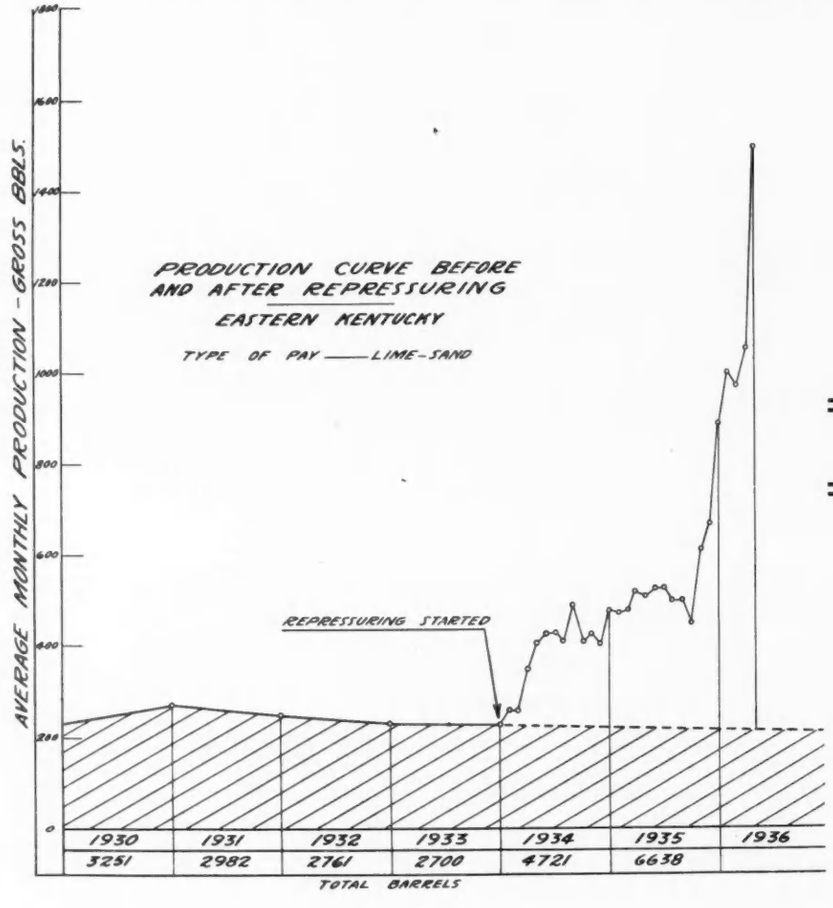
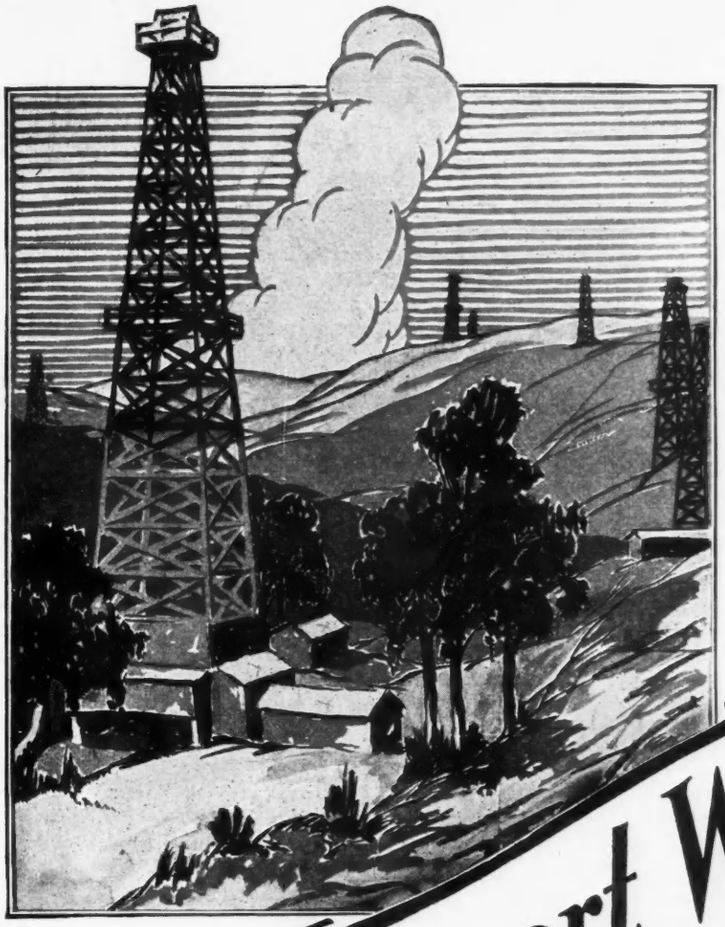


FIGURE 3



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satisfactory permeability profile which could be used in setting packers. It has been mentioned before that certain horizons in limestones are commonly creviced and consist of unconsolidated material. Thus when only 50 percent to 65 percent of core is recovered there is no way of determining where packers should be set to take care of these horizons. That they are certainly highly permeable is indicated by the fact that such wells, as shown in Figure 2, take air at ease under 40 pounds. The core recovery in this well was approximately 60 percent which explains why the unconsolidated and highly permeable zone is not represented in the analyses. It is easily seen that the parts of the core recovered represent only an average of the lower permeabilities. The display of a core that represents 95 percent to 100 percent recovery eliminates the packer setting difficulty as the location of the unconsolidated horizons can be determined by inspection. (Note Figure 4.) The laboratory can not give a truly representative permeability value for a limestone core unless the recovery has been high and since proper packer setting is dependent on this, it is of vital importance to the operator.

Laboratory analyses seem to indicate that there may be more of a relation in limestones between permeability, porosity, and oil content than in sandstones. In general, where the oil content is best or at least good the sand seems to be more permeable and more porous. Where permeabilities are extremely low the oil content never amounts to much, if anything, and the porosities are very low. Occasionally oil in the form of a residue is found in limestone and would be unremovable even if the rock had permeability. (See Figure 2.) The oil content in limestones as determined in the laboratory never reaches a maximum because all of the oil in the larger cavities is lost when such cavities are exposed by drilling. However, part of this loss is offset due to the presence of chert horizons which would contain no oil. (The laboratory analyzes a piece of core for its oil content and from the resulting data assigns so many barrels of oil to the acre-foot for that part of the core regardless of the character of the core rock, whether or not it be cherty or cavernous. If the rock was cavernous then the laboratory has underestimated the oil content because it could not account for the oil that was in the cavities now exposed. If the rock contained chert, which is a non-porous non-oil-bearing material, then we have overestimated the oil content. If the rock contains both chert and cavities then one offsets the other to some extent:)

In Eastern Kentucky our production rate in some cases has increased more than 700 percent, due to repressuring, and some production curves are now back up to their 1918 level. (See Figure 3.) From cored leases and past production history it is determined that parts of our limestone producer has been depleted approximately 12 percent. Other parts which have high and erratic permeabilities have produced quickly, and are estimated as being 25 percent depleted.

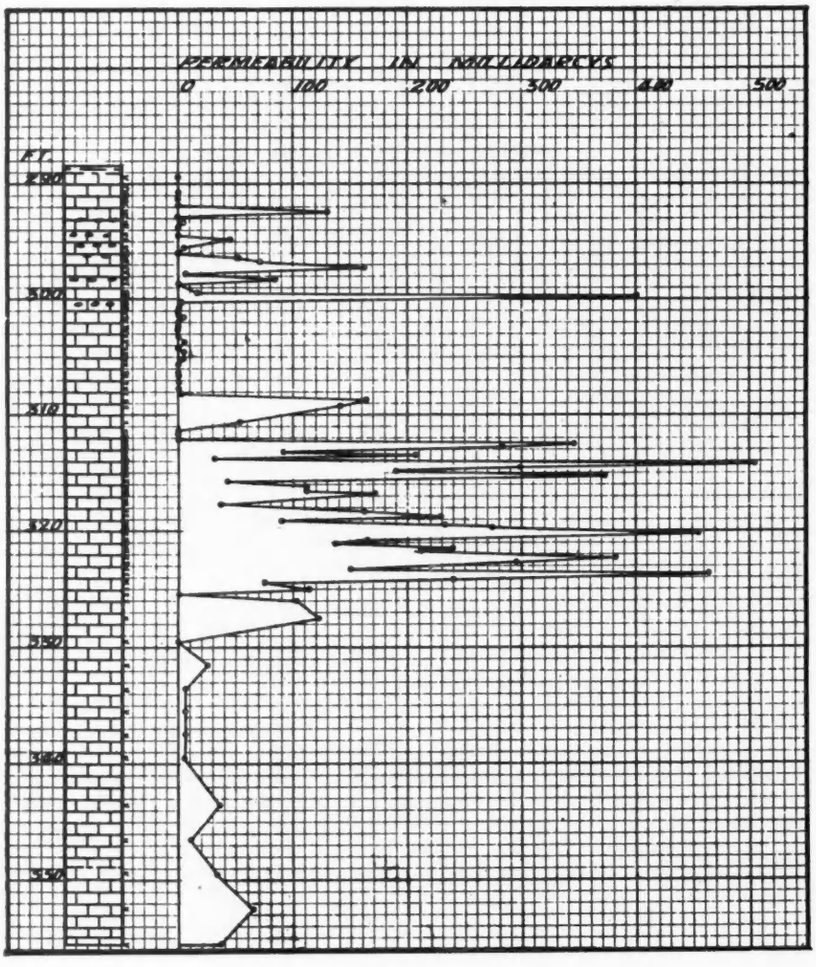


FIGURE 4

Problems In Improved Recovery

By MILLARD H. FLOOD, Engineer,
Ohio Oil Company, Robinson, Illinois

THE possibilities of successful and profitable repressuring or other types of secondary methods of recovery of oil from oil bearing formations may be realized by definite knowledge and application of several forms of science and engineering. It will be necessary to include certain phases of physics, chemistry, physical-chemistry, geology, mechanical, civil and petroleum engineering, and to utilize the knowledge the petroleum research laboratory of the Illinois State Geological Survey Division can give, and will develop, in the future. While the search for new discoveries and the solution for many of our present unsolved problems in our settled production areas continue in the research laboratories, there is much valuable material that we as operators, must furnish for these problems. There is a large source of valuable material already available that should be more widely utilized by the operators in Illinois.

The problems encountered in improved recovery methods such as repressuring, water flooding, acidizing, etc., take on such proportions as to be almost continuous. The purpose of this paper is to point out some existing problems as well as those contemplated.

In the Illinois oil fields there are three types of secondary methods of recovery such as repressuring, water flooding, and acidizing. Each of these should have an individual bearing on future potential production.

First let us consider repressuring since it was the first method of improved recovery undertaken in this area. It is stated by Messrs. Bell and Squires, in their publication, Illinois Petroleum No. 23, "Preliminary Summary of Results Obtained from a Survey of Repressuring Operations in the Southeastern Oil Fields," that of the total area of 11,049 acres, it is estimated that 3488 acres have been affected by repressuring. This represents only about 3.6 percent of the total productive area of the field. Out of the 3488 acres, increases in production for one year or more were obtained on 2548 acres or 73 percent. The total number of input wells was 126, of which 93 were on leases that yielded increased production. Out of 613 pumping wells which were affected, 458 wells or 75 percent yielded increased production. The above statistics are for the year ending 1932. There have been but few new installations since.

From the above statistics it can be seen that only a small percentage of the total productive acreage for Illinois has had one or more types of secondary methods of recovery applied. We should not say, or even assume, that all the productive acreage in Illinois oil fields will respond to these methods of recovery, but a great percentage of it will be classified as prospective territory. Knowing this we should say that recovery methods have not been prevalent over the entire area and constitutes only a small percentage of our yearly output. In other words those projects undertaken in the past have been on a small scale and of the proportions of an experimental project. It is true they have shown some very good results but the cost per barrel of repressuring operations on a small scale is greater than those of larger magnitude. A noteworthy comparison is with our cousin the refiner, who at one time considered a 2500 barrel input capacity plant sufficient, whereas today he does not consider the capacity of a plant under a minimum of 25,000 barrels per day input because he has found he can handle the extra input at the same production cost by "Unit Costs" of installation. We might take a lesson from our cousin and consider the possibility that, using the same reasoning by "Unit Operation" we can realize more profits in secondary recovery methods.

The problems encountered in repressuring and water-flooding operations fall into four major subdivisions of a scientific nature, mechanical, physical, chemical and geology.

A. Geology of the oil bearing formations and of the strata above and below them.

a. Petrography of the oil bearing rocks; mineralogical composition, texture porosity, photomicrographs of surfaces or thin sections, screen analyses.

b. Structural characteristics of oil bearing formations play a very important role in the selection of proper input wells. The old fireside argument of whether an input or key well should be located on up-structure or down-structure, is still debatable. Certain fixed conditions and factors must be recognized to have influence over oil movements. In all cases where secondary methods of recovery are contemplated, structure and sand characteristics (physical properties) govern the procedure, and are essential.

B. Physics:

a. Studies of porosity, permeability, and saturation of the oil bearing rocks; physical properties and physical relations of the reservoir fluids; oil, gas and brine; field data on fluid levels, bottom hole pressures, and rates of production of oil, gas, and brine.

b. Permeability is considered the most important factor in recent research developments on core analyses. Without permeability efficient secondary methods of recovery could not exist.

c. Porosity and saturation are closely associated with each other. In any form of artificial restoration to an oil bearing formation it is vital to have porosity and conversely where there is saturation there must be porosity. Of all recovery methods used the important factor is to obtain as high a rate

of recovery as possible in direct proportion to the amount of energy expended.

d. Grain size is of course related to porosity and is self explanatory.

To obtain the true physical properties of a sand it is necessary to obtain cores for analysis. This is usually done by two methods, cable tool and rotary. Too much emphasis cannot be placed upon the thought that the most important factor to be considered in all types of recovery methods employed, is coring, and the important information obtained thru their analysis. It is a sad fact that coring was not introduced into production methods while the Southeastern oil fields were being prospected. Before we can hope for better recoveries from our present recovery methods we must know more about the principal characteristics of our oil bearing formations. This can be accomplished only by coring.

C. Chemistry:

a. Chemical composition of the rocks and of the waters, oil and gases contained in them.

b. Chemical characteristics and texture of the sands such as minerology by the aid of photomicrographics made from small thin sand sections. From these the composition and texture are obtainable.

c. Acidizing is comparatively a new process to the producers in the Illinois oil fields but from the results obtained in several experimental tests there is a probability that it will prove successful in some known areas. The Illinois State Geological Survey has published a bulletin on the possible areas of the State.

d. Chemical water analyses as used in connection with water-flooding operations. This would include the input waters and the bottom waters before and after water-flooding operations have begun.

A. Drilling new wells and coring oil sands; the design of suitable well equipment and machinery for lifting and storing the oil; this includes equipment for repressuring by the injection of gas, air or water. The following items included here require knowledge of underground conditions as outlined above; (1) decision as to the most suitable repressuring medium—air, gas or water (2) the proper selection or spacing of key or input wells with relation to the producing oil wells, choosing such wells that are mechanically satisfactory, such as, tight casing seats, and if casing is good enough to withhold surface waters and pressures applied, shot record, a study of initial and settled production records by the use of production decline curves, etc., their relation structurally, and the selection of key wells with favorable sand characteristics, either new or old producing wells (3) the selection of machinery for compressing air or gas or for pumping water which will be of the correct capacity for the particular area to be repressured. Experimental work is necessary, in some instances, to determine the pressure required to inject the repressuring medium into the oil bearing formation. In addition to this it is necessary to know the past and present history of the lease, particularly with respect to vacuum.

Many detailed items might be mentioned under mechanical engineering e. g. methods of metering the volume of injection medium for each key well, and of measuring the rate of production of gas, oil and water from individual producing wells; the study of oil-gas ratios or volume-rate per barrel of oil produced; back pressures in producing oil wells and the methods applied; increased load factor on powers and prime movers due to increased production causing the mechanical equipment to operate longer and with increased speed.

Treatment of Oil: A. Separation of oil and gas and of oil and water; B. Chemical and physical methods of demulsification.

Corrosion: A. Effects of corrosion on oil field equipment; B. Corrosion-resisting equipment; C. Chemical and physical methods of combating.

Disposal of Oil Field Wastes: A. The proper disposal of basic sediments known as B.S. and brine so as to avoid stream pollution and property damage; B. By-products from the use of salt water brines.

Economics: A. Survey of proved underground reserves; B. Costs of production by various methods; C. Prices and Markets.

General:

The economical picture of secondary methods of recovery take on different aspects by different individuals. But to the writer there are two classifications, the individual or independent producer, and the corporation. In the case of the independent producer there is likely to be insufficient capital or reserves to carry on a large project, whether experimental or actual, while with the corporation there are special reserves set up to take care of emergencies, while in some major oil companies there exists a sinking fund set up for expermiental and test work.

The problem of economics confronting the producer in the Illinois oil fields are (1) producing properties are approaching the end of their economic life both from the standpoint of high lifting costs and depletion of oil reserves (2) secondary methods of recovery are limited as to capital outlay (3) very little scientific information is known concerning the oil bearing formations (4) poor drilling records have been kept (5) most operators do not consider the scientific angle to be of any material value (6) that all producing properties should be classed as economical prospects from the use of recovery methods (7) that secondary recovery methods have been started too late (8) what will be the return on the investment figuring depletion and depreciation, with recovery methods.

To summarize, the writer has assumed that the properties where secondary methods of recovery are to be conducted, have been operated over a number of years and are approaching the place where these methods should be applied before their economic limit has been reached. We then approach the problem of analyzing conditions for recovery methods. Each operator must analyze his own problem from the standpoint of recoveries and the economics involved. Each operator must exercise a precautionary and questioning attitude in making his survey for it is easy to calculate and assume certain conditions exist on paper, but when it is applied to the field in actual practice, it might mean economic defeat. Probably the most important factors are (1) the oil is not there to be recovered by secondary methods of recovery, i.e., too low saturation, and (2) the oil bearing formation may have undesirable physical properties, generally speaking either too low a premeability, or so irregular a permeability profile that some oil is trapped by the Jamin effect or the presence of a highly permeable lense above the saturated portion of the sand. From this standpoint the Illinois State Geological Survey is of unmeasureable value to all operators within the state.

This paper was presented at the fourth Annual Mineral Industries Conference of Illinois.

Measurement of Viscous Fluids

TESTS SHOW ROUND-EDGE ORIFICE MAY BE USED IN THE FLOW

By H. V. BECK, Professor,
School of Mechanical Engineering,
The University of Oklahoma

THE orifice meter, of the sharp square-edged type has proven itself beyond question admirably suited to the measurement of gases and non-viscous liquids. Although the coefficient of discharge for an orifice meter is variable, being a function of Reynolds' number, the variation is so small that the coefficient in the non-viscous region is substantially a constant. The actual variation is within the limits of accuracy of commercial measurement.

With fluids of higher viscosity, however, the degree of variation increases. In the measurement of viscous fluids with square-edged orifices, it is possible to have a 10 percent change in coefficient caused by the viscosity change produced by changes in temperature, which occur during a change in the process. This variation of the coefficient of discharge has caused many engineers, with some degree of justification, to refrain from using the orifice meter on viscous fluids. Unless the fluid viscosity has been definitely determined for the entire range of operating temperatures and unless the fluid temperature at metering conditions is definitely known, it is impossible to determine the proper orifice coefficient.

In the effort to develop an orifice meter for viscous fluids with a substantially constant coefficient of discharge the round-edged orifice was investigated. Coefficient curves characteristic of a nozzle and of a conventional square-edged orifice are shown in Figure 1. It will be noted that in the region of most commercial measurement work; with Reynold's numbers above 1000; the nozzle coefficient increases and the square-edged orifice coefficient decreases with increase in Reynolds' number. It is logical to assume that the coefficients applicable to a round-edged orifice would be represented by a curve somewhere between the nozzle and the square-edged orifice. If the proper edge could be determined, an orifice could be produced that would have a substantially constant coefficient. With such an orifice, accurate flow calculations could be made without correcting for the infinite factor—viscosity.

With this in mind, the author conducted a program of research in the laboratories of a large meter manufacturer, to determine the proper edge to produce the desirable flat coefficient characteristic. Based upon the results of this work, a series of orifice plates were produced in which the desired results were substantially accomplished. In Figure 2 the results of tests on a typical round-edged orifice are shown together with the results of tests on the same size of conventional orifice with a sharp square edge. It will be noted that in the ordinary commercial range of fluid measurement; with Reynolds' numbers above 1000, the coefficient of discharge for the round-edged orifice is substantially constant at 0.855. The fluid used in the test work was molasses in various degrees of dilution with water. With this fluid, testing over an extremely wide range of viscosities was possible.

Gratified by the results of these tests, the author

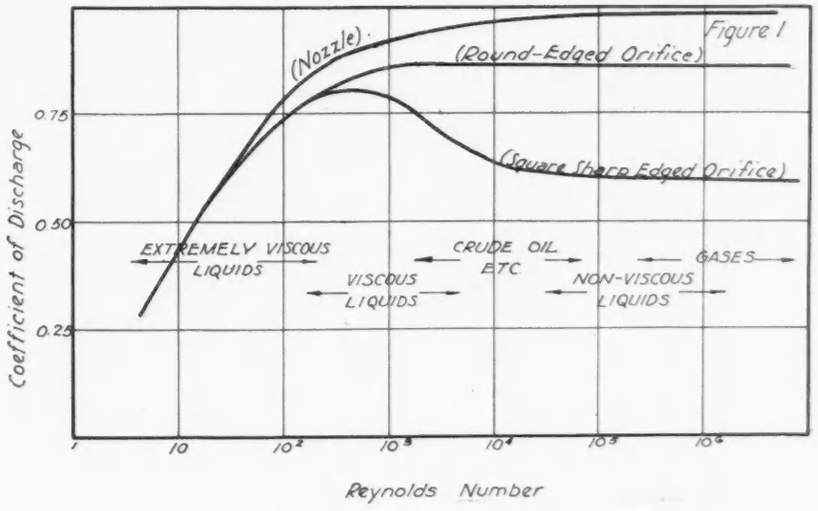


FIGURE 1

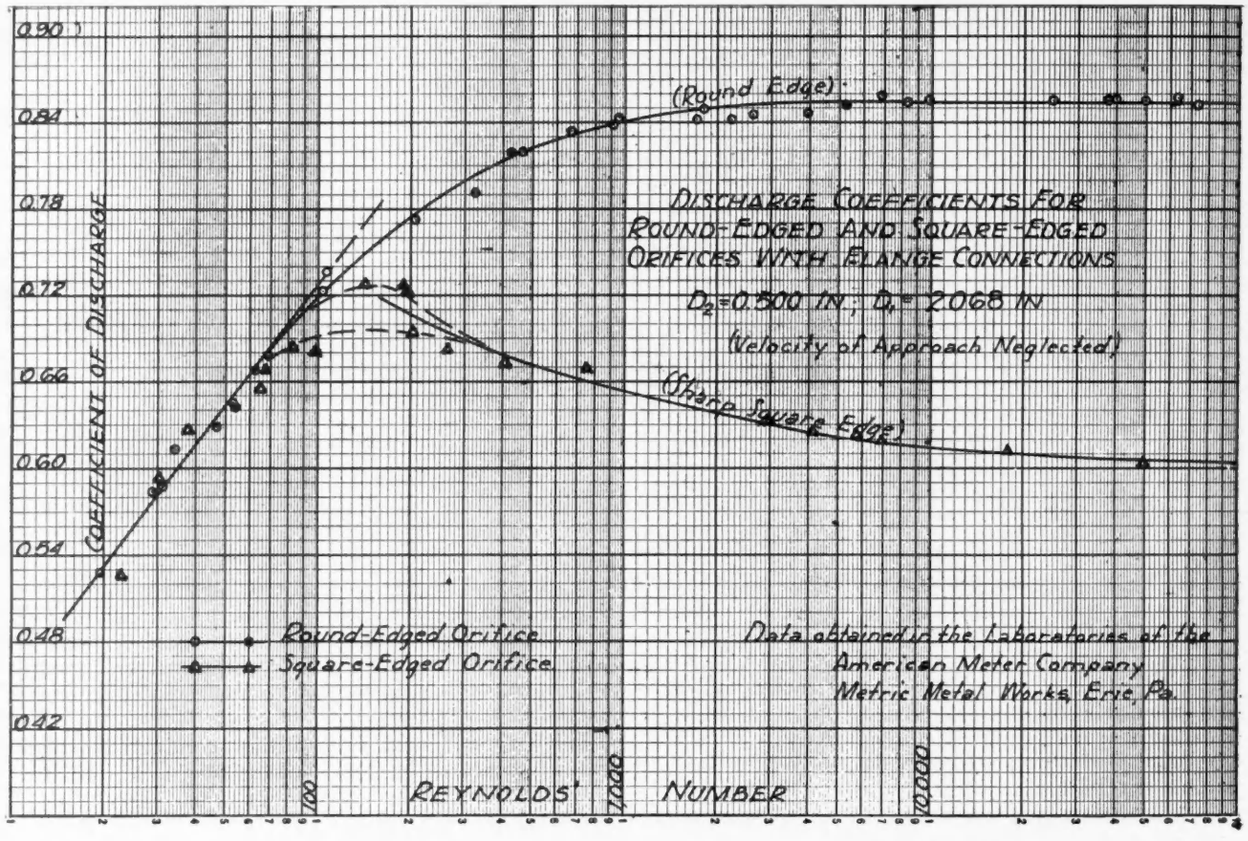
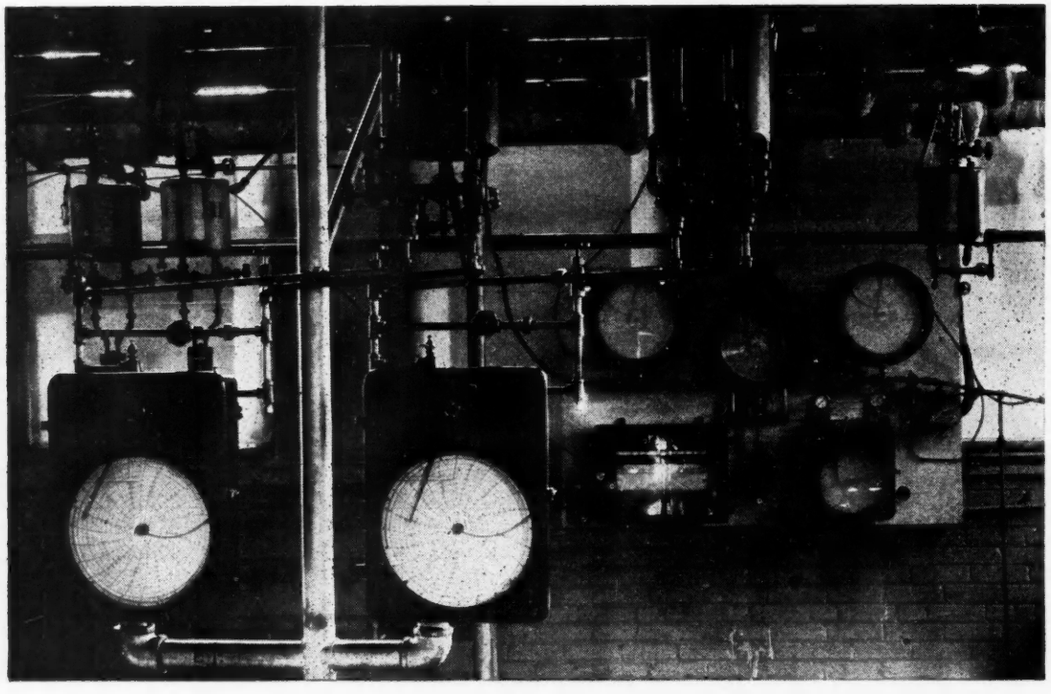


FIGURE 2

continued the investigation on the 4-inch line in the Fluid Meters Laboratory at the University of Oklahoma. With the apparatus available in this laboratory, accurate determinations could be made on rates of flow as high as 750 barrels per hour. The fluid used in this case was an oil, the viscosity and density of which had been carefully determined over a wide temperature range.

In order to duplicate field conditions, still retaining the controlled conditions of the laboratory, two

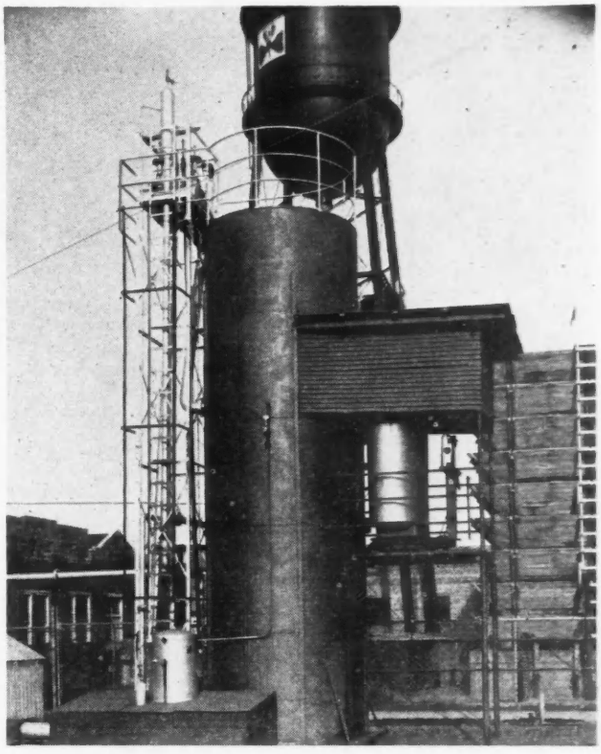
FIGURE 3
View of recording meters and test apparatus used in investigation.



calibrated recording differential pressure meters having one-hour clocks were installed. One of these meters was to be used for the differential obtained with flange taps and the other for the differential on the same orifice obtained with the pipe taps. These meters together with the separating chambers between them and the test line are shown in Figure 3. The two-story tank used for the storage and measurement of the test fluid is shown in Figure 4. In this tank the upper and lower chambers each have a capacity of approximately 90 barrels.

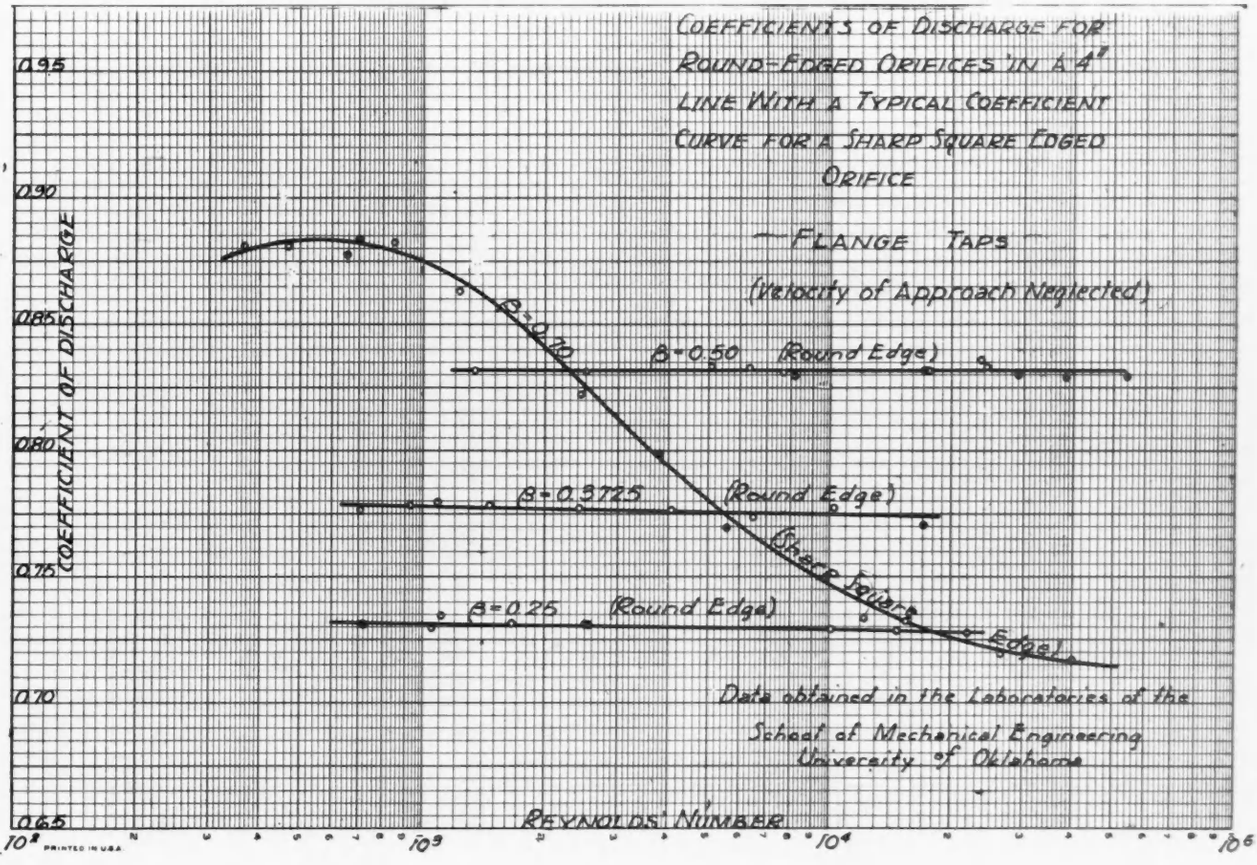
The results obtained in the continuation of the investigation at The University of Oklahoma corroborated the results previously obtained in the tests on the two-inch line. Of the coefficient characteristics for the various edge forms investigated, those which most closely indicated a constant coefficient of discharge are shown in Figure 5.

Although the investigation is yet incomplete, the results obtained to date are sufficient to warrant the statement that round-edged orifices may be produced with coefficients which, within the limits of accuracy of commercial measurements, are substantially constant. With orifices of this type, the need for constant observation of the fluid temperature and for frequent sampling of the fluid for viscosity determinations would be eliminated. The orifice with the coefficient determined at the factory could be used in the field without corrections.



Above: **FIGURE 4 showing two-story test tank used for storage and measurement of test fluid.**

***Below:* FIGURE 5**



WILSON-SNYDER PUMPS
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The Portable Rig Company's Mechanical Rig, seen by thousands at the Tulsa Oil Show, is equipped with a Wilson-Snyder No. 16 Power Pump.

It is only natural that such a complete, efficient rig as this should be equipped with the famous W-S pump that has made such remarkable records, in speed, economy and performance.

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BRANCHES

Barbers Hill, Kilgore, Greta, Gladewater, Bay City, Pierce and Corpus Christi, Texas; Lake Charles and Rodessa, La.

Markets Steady

BETTER CONTROL OF SUPPLY PROMISES FAVORABLE PRICES

THE oil industry's markets have retained the better aspect that they assumed about 10 days ago, and although prices did not make any advance during the past week, it appears possible that some gains may be impending. The Mid-Continent tank car markets still are on the lower ground to which they receded in recent weeks, but there are fair prospects that some of the losses will be recovered before the end of June.

Tending to promote such recovery are several factors, notably the improving demand for gasoline, the recent substantial reductions of gasoline inventories, and the better control of crude production provided for under the June allowables of the important producing states.

Gasoline Demand Improves

Gasoline demand during the Memorial Day holiday period fulfilled the high expectations, and subsequently has continued comparatively heavy. In consequence, the previously prevailing surpluses of third-grade gasoline have been virtually eliminated from the markets. In the Chicago area, there has been a resultant one eighth cent advance in the minimum price of the low octane material, although the reaction in other sections of the Mid-Continent has been only a further steadying of the existing prices. Distress offerings of third grade have been entirely wiped out in East Texas. Gasoline made from Rodessa crude is available at ⅜ cent a gallon under the general Mid-Continent market, but that large price concession is due to the exceptionally low octane rating of the material involved.

Motor Fuel Stocks Lower

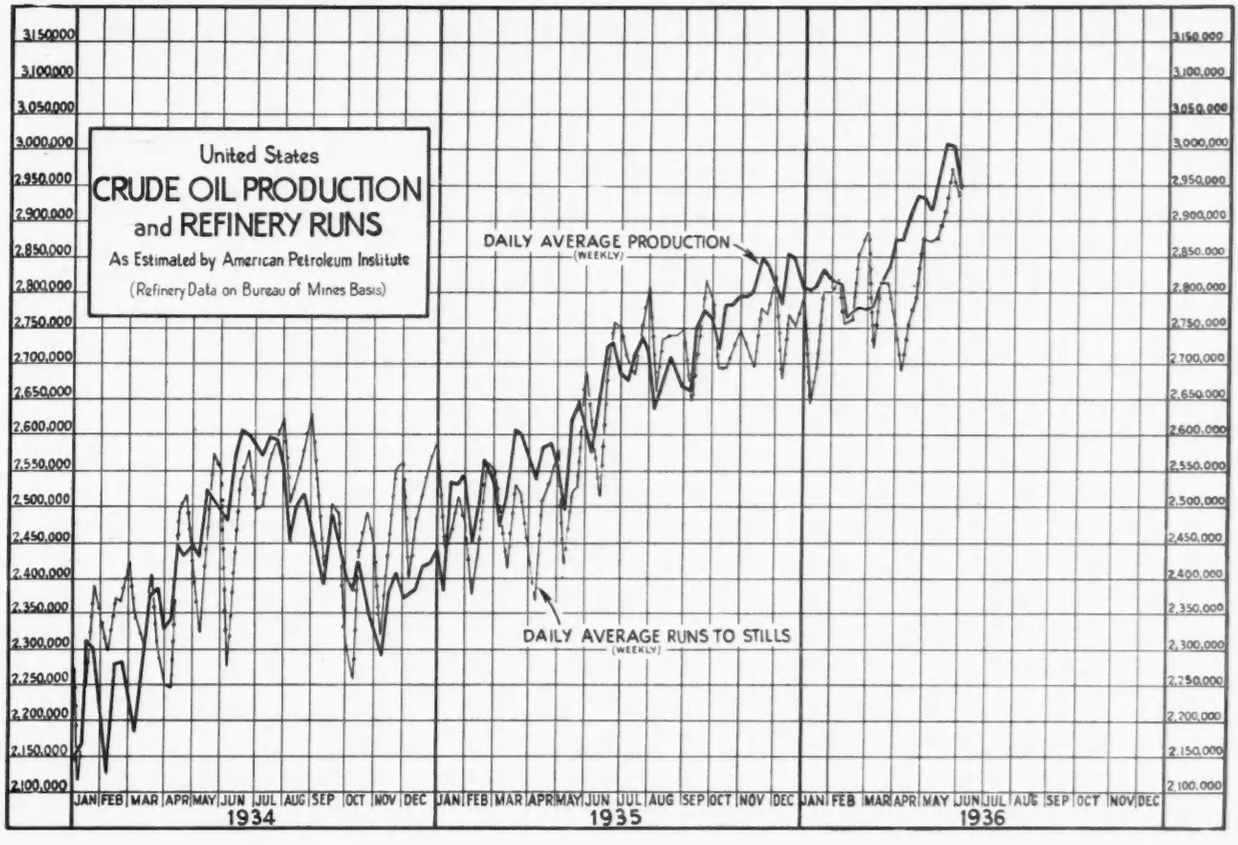
Although the gasoline markets have been hindered by the heavy inventories held by the industry, the latest information on the gasoline stocks was encouraging, showing a substantial decline. In its report covering the week ended May 30, the American Petroleum Institute indicated that total stocks of finished and unfinished gasoline were reduced more than a million barrels, or to 71,110,000 barrels from 72,490,000 barrels a week before. Nevertheless, the gasoline stocks situation is not as favorable as a year ago, as the inventories are about 15 percent higher than at that time, while a much lower percentage of improvement in gasoline demand is indicated for the remainder of this year, compared with the similar period of last year. A mitigating circumstance, however, is the fact that today's large gasoline stocks are largely in the hands of companies that are financially strong.

Crude Control Better

Contributing in large measure to the current firmness of the gasoline market is the prospect that crude production for June will be closely in balance with consumption. It is to be expected that the crude output will run comparatively high in the opening half of the month, but if the trend goes according to the usual pattern, there will be a compensating decline in the latter part of the month. The allowables set in the leading producing states for June give promise that there will be little or no addition to storage during the month.

Prices Mostly Unchanged

Aside from the improvement of the market for low octane gasoline in the Chicago territory, tank car prices late last week were mostly unchanged from a week previously. The new minimum price on U. S. motor gasoline of 62 octane and



below in the Chicago market was 4¾ cents a gallon, as against 4⅝ cents a week earlier, the new price being the same as at the refineries in Oklahoma and in East Texas. On the 63 to 67 octane gasoline, there was also a one eighth cent improvement, when the minimum price advanced to 5 from 4⅞ cents a gallon. On that grade in the Oklahoma market the price range continued between 5⅜ and 5⅝ cents. The 68 to 70 octane U. S. motor gasoline was unchanged in the Chicago area at 5⅝ to 6 cents and also in Oklahoma at 6 to 6¼ cents.

The kerosene market has continued listless, with demand comparatively light. The prices late last week were the same as a week previously. The 41-43 water white grade was priced at 3⅞ to 4⅛ cents a gallon at Chicago and at 4 to 4¼ cents f.o.b. Oklahoma refineries. The 42-44 water white kerosene continued at 4⅛ to 4¼ cents in the Chicago market and at 4¼ to 4½ cents in the Oklahoma region.

CUT NEW MEXICO

HOBBS, N. M.

EFFECTIVE June 1, the production quota for all fields in New Mexico was reduced from 75,000 barrels to 73,000 barrels daily by the Oil Conservation Commission. The cut was made in accordance with agreement reached by members of the Oil States Compact at Tulsa meeting in May. The top allowable for prorated wells in Lea County was reduced from 107 barrels to 100 barrels daily per well beginning June 1. This reduction amounts to more than the 5 percent agreed upon by compact members in so far as it affects oil wells. However, the quota for the state was cut only about 2.67 percent, owing to the rapid gain in new producers that must be absorbed. Market demand for New Mexico crude during June, as determined by the Bureau of Mines, was set at 68,300 barrels daily, or 4700 barrels less than the figure authorized by the state authorities.

IMPROVING

Natural gasoline scarce in California

THE general market in California is showing a slow but gradual improvement. Little free crude oil can be obtained, even at small premiums. Natural gasoline groduction is tightly held and the little free stuff obtainable is moving at premiums ranging as high as 2.5 cents a gallon. It is rumored certain small refiners are trying to promote the movement of a tanker load of natural gasoline from the Gulf, which they can do at a delivered price less than they are now paying.

Stocks were off slightly in April in California in spite of a small over production. The unofficial quota for the state in May was 540,000 barrels and this has been increased 4000 barrels for June, with San Joaquin Valley fields getting the bulk of the increase. It is now indicated production will run around 565,000 barrels in June, judging by previous actions of the producers.

Independent refiners are boosting retail gasoline prices in Southern California from a previous low of 12.9 cents a gallon. They had been expected to hold their going price at 15 cents, 1 cent under the major company third grade. During the past week many small stations jumped their price to 14 and 15 cents. Indications point to a more stabilized market and an increase in consumption.

TEXAS GAS SURVEY

AUSTIN.

A SPECIAL survey of Southwest Texas gas fields has been ordered by the Texas Railroad Commission. Beginning June 1, the commission placed a corps of 14 petroleum engineers at work in this area. The engineers are the group hired by the commission from the 1936 graduating classes of Texas colleges.

The investigation is required under statutes which provide that gas wells shall be tested twice each year. The data will show the connection to each well, the depth from which the well produces, gravity of the gas, and similar information which should be filed with the commission at Austin and will form the basis for future proration orders.

WEST TEXAS LINE

Abilene, Texas.—Baird Refining Company, owner of a crude skimming and cracking plant at Chautauqua, near Baird, Texas, is reported to be contemplating construction of a 27-mile, 4-inch crude line from its plant to the Hawley field, Jones County. The company is purchasing quantities of Jones County crude delivered by tank trucks in order to supplement the limited supply within reach of its pipe line gathering system in the Callahan County shallow belt. It is affiliated with Woodley Petroleum Company, Houston.

BIG BLOCK TAKEN

Bartlesville.—Cities Service Gas Company is reported to have leased 122 sections of land from Stonebraker-Zea Live Stock Company for gas. This acreage is northwest of Guymon, Oklahoma Panhandle, and is considered a part of the gas trend existing between the Texas Panhandle area and the Hugoton, Kansas, gas field.

Production in this area, which was partially proven a few months ago with the completion of Cabot Carbon Company's 39,000,000-foot gasser, is from the dolomite. Oil production to the south of this region is from the granite wash, with scattered production in the upper dolomite. Considerable lease play, has blocked up large areas in this section; most of which is held by larger natural gas companies.

Summary of Wells Completed in the United States

Week Ending June 6, 1936

	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total Completions 1936	Total Completions this Date 1935
Alabama	....	....	....	....	.....	2	3
Arkansas	1	1	....	....	297	37	79
California	19	17	....	2	10,324	448	350
Colorado	....	....	....	....	.....	4	5
Illinois	....	....	....	....	.....	4	8
Indiana	2	1	1	....	20	99	78
Kansas	24	17	....	7	16,061	653	618
Kentucky	6	6	....	....	430	117	70
Louisiana	19	10	6	3	14,065	445	320
Michigan	18	6	5	7	1,315	310	179
Mississippi	....	....	....	....	.....	2	11
Montana	5	4	1	....	146	51	35
New Mexico	16	15	....	1	29,900	229	116
New York	....	....	....	....	.....	....	....
Ohio	11	7	3	1	350	829	586
Oklahoma	69	47	....	22	54,025	1,167	1,028
Pennsylvania	....	....	....	....	.....	....	65
Texas	285	213	7	65	280,842	5,300	5,163
Utah	....	....	....	....	.....	....	....
West Virginia	8	3	5	....	14	302	224
Wyoming	1	1	....	....	400	20	24
Total this week	484	348	28	108	408,189	10,020	8,963
Total last week	461	311	53	97	381,224	....	....
Total this year	10,020	6,648	980	2,392	9,219,937	....	....

Comparison of Permits Granted for New Wells

STATE	Week Ending June 6	Total this Mo.	Total this Year	Total this Date Last Year	1935 Year Total
Arkansas	2	2	48	16	70
California	28	28	416	211	925
Louisiana	22	22	540	334	846
Kansas	25	25	794	411	1,204
Michigan	18	18	300	198	749
Oklahoma	58	58	999	918	2,311
Texas	394	394	6,263	4,446	10,800
Total	547	547	9,360	6,534	16,964

PRODUCTION RISES
California, Oklahoma cause slight increase

UNITED STATES crude oil production last week, ended June 6, was 7505 barrels per day higher than in the previous week and 108,225 barrels above the Bureau of Mines recommendation, having averaged 2,946,525 barrels daily.

The production was higher last week than the week before, since declines in Kansas, Texas, Louisiana, and New Mexico were not great enough to cancel increases in Oklahoma, California, and the Eastern States.

Texas production was almost unchanged, having declined 300 barrels or to 1,148,600 barrels daily for the new week. That rate of output was about 23,000 barrels a day higher than the June recommendation of the Bureau of Mines.

Louisiana's output declined to 231,125 barrels daily from 234,545 barrels per day the previous week, but still was 55,425 barrels per day above the Bureau of Mines suggestion. Although the fields of the coastal district increased about 2000 barrels, that gain was more than canceled by a 5000-barrel decline for North Louisiana, with the Rodessa field producing at a lower rate.

New Mexico last week reflected its lower allowable for June, with output averaging 73,500 barrels daily, against 74,900 barrels daily the week before. On the federal schedule, the state has a quota of 68,300 barrels daily for June.

Kansas registered the outstanding decrease of the week, averaging 135,150 barrels daily, compared with 155,275 barrels daily the week before. The state was materially under its federal allocation for June in this opening week of the month, the federal quota being 153,100 barrels daily.

Oklahoma production last week averaged 547,450 barrels daily, or about 16,000 barrels per day more than in the previous week, but it was nevertheless within the federal June allocation of 552,500 barrels daily.

California output rose last week to 578,500 barrels daily from 567,000 barrels daily the previous week, an increase of 11,500 barrels. At the new level, the state was 43,000 barrels per day above the Bureau of Mines recommendation.

TO TEST RATIO
Southwest Texas wells to test gas-oil ratio

Austin.—The Railroad Commission has issued an order providing for a gas-oil ratio test of every Southwest Texas oil well. Operators are required to report to the commission on a special form showing the daily oil production, daily gas production and the percentage of water produced with the oil.

Results of this survey are expected to form the basis for special orders to be issued regulating the gas production.

United States Crude Oil Production
Estimates Compiled by THE OIL WEEKLY

DISTRICT OR STATE	Bureau of Mines Recommendation (Daily in June)	ACTUAL PRODUCTION: BARRELS DAILY FOR WEEK ENDING June 6	May 30
TEXAS—			
Texas Panhandle	.....	63,100	62,500
North Texas	.....	59,100	59,800
West Central Texas	.....	25,300	25,200
West Texas	.....	177,800	179,300
East Central Texas	.....	51,900	52,100
*East Texas Field	.....	436,800	441,800
†South Texas	.....	82,800	80,700
†Texas Gulf Coast	.....	251,800	247,500
*Total Texas	1,125,700	1,148,600	1,148,900
OKLAHOMA—			
Oklahoma City	.....	134,775	110,575
Seminole Area	.....	142,000	145,925
Tatums	.....	3,325	3,425
Lucien	.....	13,100	13,500
Fitts	.....	52,175	56,475
Edmond	.....	10,500	12,725
Others	.....	191,575	188,975
Total Oklahoma	552,500	547,450	531,600
KANSAS—			
Ritz-Canton	.....	6,400	6,625
Voshell	.....	3,075	3,100
Nikkel-Hollow	.....	3,950	3,950
Sedgwick	.....	5,550	5,525
Burrton-Haury	.....	12,400	13,525
Lorraine	.....	4,975	8,300
Oxford	.....	6,650	6,725
Others	.....	92,150	107,525
Total Kansas	153,100	135,150	155,275
LOUISIANA—			
North Louisiana	.....	82,625	87,745
Louisiana Gulf Coast	.....	148,500	146,800
Total Louisiana	175,700	231,125	234,545
ARKANSAS	31,800	30,000	30,000
CALIFORNIA—			
Long Beach	.....	56,600	65,600
Santa Fe Springs	.....	41,600	43,300
Huntington Beach	.....	36,000	35,600
Dominguez	.....	26,000	25,200
Inglewood	.....	12,500	12,100
Ventura Avenue	.....	33,000	34,400
Seal Beach	.....	8,000	9,400
Midway-Sunset	.....	54,000	57,000
Elwood	.....	12,500	12,800
Kettleman Hills	.....	77,000	76,100
Mountain View	.....	28,000	26,700
Playa del Rey	.....	13,500	13,800
Others	.....	179,800	155,000
Total California	535,500	578,500	567,000
MOUNTAIN STATES—			
Wyoming	37,800	36,200	36,100
Montana	13,000	17,100	14,900
Colorado	4,700	4,500	4,500
Total Rocky Mountain States	55,500	57,800	55,500
NEW MEXICO	68,300	73,500	74,900
EASTERN STATES	103,200	110,800	107,200
MICHIGAN	37,000	33,600	34,100
*Total United States	2,838,300	2,946,525	2,939,020
*Surreptitiously produced oil in East Texas, not included in above figures, estimated at	.....	15,000	15,000
Grand Total, including surreptitious production	.....	2,961,525	2,954,020

† Coastal Section of South Texas is included with Texas Gulf Coast.

Crude Runs to Stills, Stocks of Finished and Unfinished Gasoline and Gas and Fuel Oil, and Cracked Gasoline Production, Week Ended May 30, 1936

(Figures in thousands of barrels of 42 gallons each, as reported to American Petroleum Institute)

DISTRICT	Daily Refining Capacity			Crude Runs to Stills		Stocks of Finished and Unfinished Gasoline				Stocks of Gas and Fuel Oil			Daily Charging Capacity of Cracking Units			Cracked Gasoline Production
						Finished										
	Potential Rate	Reporting		Daily Average	% Operated	At Refineries	Terms. Trans. Pipe Lines	Unfinished in Naphtha Distillates	Total Finished and Unfinished	Gas Oil & Distillate	Residual Fuel Oil	Total	Potential Rate	Reporting		Daily Average
		Total	%											Total	%	
East Coast	612	612	100.0	519	84.8	7,339	11,296	1,028	19,663	3,874	4,780	8,654	534	534	100.0	106
Appalachian	154	146	94.8	103	70.5	1,335	1,016	249	2,600	279	226	505	79	78	98.7	21
Ind., Ill., Ky	442	424	95.9	375	88.4	6,921	2,755	895	10,571	1,601	1,946	3,547	349	348	99.7	133
Okla., Kans., Mo.	453	384	84.8	298	77.6	4,385	2,282	667	7,334	579	2,353	2,932	256	228	89.1	69
Inland Texas	330	160	48.5	111	69.4	1,209	149	226	1,584	283	1,413	1,696	148	105	70.9	29
Texas Gulf	680	658	96.8	620	94.2	5,490	197	2,005	7,692	3,752	3,320	7,072	399	393	98.5	148
Louisiana Gulf	169	163	96.4	121	74.2	879	348	242	1,469	997	1,012	2,009	77	74	96.1	28
North La.,—Ark.	80	72	90.0	49	68.1	222	105	118	445	57	344	401	46	44	95.7	8
Rocky Mountain	97	60	61.9	50	83.3	1,418	.....	90	1,508	134	619	753	46	39	84.8	14
California	852	789	92.6	508	64.4	9,690	2,553	1,133	13,376	.....	.....	71,678	280	280	100.0	65
Reported	.....	3,468	89.6	2,754	79.4	38,888	20,701	6,653	66,242	.....	.....	99,247	.....	2,123	95.9	621
Estimated Unreported	.....	401	....	181	....	2,728	1,807	333	4,868	.....	.....	2,271	.....	91	....	44
*Estimated Total U.S. May 30, 1936	3,869	3,869	....	2,935	....	41,616	22,508	6,986	71,110	.....	.....	101,518	2,214	2,214	....	665
*Estimated Total U.S. May 23, 1936	3,869	3,869	....	2,975	....	42,447	23,061	6,982	72,490	.....	.....	100,212	2,214	2,214	....	650
U.S.B. of M., May, 1935	.....	....	....	2,594	....	†34,725	†20,471	†6,287	†61,483	.....	.....	†100,177	.....	....	....	559

*Bureau of Mines basis currently estimated. †As of May 31 1935.

The Changing Panorama

[*Continued from page 12*]

balancing of supply and demand that is found in Texas, Oklahoma, Kansas, and New Mexico.

The Mid-Continent's Burden

Consequently, those four Mid-Continent states still are forced to carry the burden in the national balancing of supply and demand. And the results that they achieve must largely determine the industry's statistical progress and the trend of the oil markets. From the standpoint of endeavoring to promote favorable crude and gasoline prices, producers in Texas, Oklahoma, Kansas, and New Mexico may look upon the Louisiana proration orders and the California voluntary agreement as acts of God. They are factors over which the mentioned four big Mid-Continent states have not even any indirect control, as through the Interstate Compact, since Louisiana and California refused to enter the Compact.

As in the past, therefore, Texas, Oklahoma, Kansas, and Louisiana must be content to cooperate and balance production with demand as best they can, if the markets are to be kept stabilized. And as stated above, Texas at present is in a particularly critical position, with potentialities for much good or much harm.

Federal and State Quotas Compared

In cold figures, the following tabulation shows how the state daily allowables for June compare with the Bureau of Mines recommendations, in the six leading producing states:

State	Federal Allocation	State Allowable	Excess or Deficiency
Oklahoma ..	552,500	524,875	—27,625
California ..	535,500	[2]544,000	+ 8,500
Louisiana ..	175,700	216,975	+41,275
Kansas	153,100	145,445	— 7,655
New Mex. ..	68,300	71,250	+ 2,950
Texas 1,125,700		[1]1,154,483	+28,783
	2,610,800	2,657,028	+46,228

[1] As of June 1; allowable increases during month.
[2] Recommendation of Central Committee of California Oil Producers.

These six states account for the bulk of the total United States recommendation of 2,838,300 barrels production daily for June, and the remaining states normally adhere closely to the federal quotas given them. While the tabulation indicates that June allowables of the states authorize 46,228 barrels a day more than recommended by the Bureau of Mines, actual production likely will run at least 75,000 barrels a day above the federal figure. For California's history in recent months indicates that state likely will be at least 25,000 barrels above the federal allocation, while Texas and Louisiana are likely to have somewhat greater excesses than above indicated, because their allowables grow as wells are completed. If the national production for June does exceed the federal recommendation by 75,000 barrels daily, it will mean that production will be exactly in balance with the demand for United States oils, as the Bureau recommendations contemplated that production would be 75,000 barrels daily under requirements, and that the remainder would be taken from storage.

If the June production actually proves to be 75,000 barrels above the Bureau of Mines recommendation, the month's results will be better than in May, when the excess was 150,000 barrels daily, and in April, when the surplus was 117,000 barrels daily; and the effectiveness of control will be the same as in March, when the output exceeded the federal recommendation 75,000 barrels daily.

TENDER APPROVED

Humble cleaning line for natural gasoline use

Kilgore, Texas.—Tender application filed by Humble Pipe Line Company with the federal tender board for the shipment of 23,904 barrels of kerosene through its recently completed eight-inch gasoline line that extends from East Texas to Baytown, Texas, was approved here June 3. A. J. Muller, representative of the company, announced that the kerosene was purchased over a period of weeks from East Texas refineries to be used in flushing that section of the line that was formerly used for transporting crude to the coastal terminal. Muller advised the board that Humble Pipe Line Company is scheduled to handle about 180,000 barrels of natural gasoline and its by-products each month from East Texas when work on cleaning the line is completed.

CRUDE OIL PRICE QUOTATIONS

(Figures Represent Basic or Flat Prices—Revised to June 5, 1936)

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Oklahoma-Kansas	28—$0.94	2¢	40—$1.18	1- 9-36
N. and N.-C. Texas	28— .84	2¢	40— 1.08	1- 9-36
Texas Panhandle				
Gray County	34— .86	2¢	40— .98	1- 9-36
Carson-Hutchinson	34— .81	2¢	40— .93	1- 9-36
West Texas				
Ector, Pecos, W'kler Crane, Upton, Howard and Glasscock	29— .76	2¢	36— .90	1-14-36
West Central Texas	28— .84	2¢	40— 1.08	1- 9-36
East Central Texas	28— .91	2¢	40— 1.15	1- 9-36
East Texas	*1.15			1- 9-36
Talco	* .60			4-15-36
Texas Gulf Coast				
Anahuac-Dickinson	30— 1.04	2¢	40— 1.24	1- 9-36
Conroe	35— 1.24	2¢	40— 1.34	1- 9-36
Tomball	*1.30			1- 9-36
Cleveland	*1.00			1-11-34
†Goose Creek, Hull Liberty, Orange, Pierce Junction, Moss Bluff, Raccoon Bend, Sour Lake, Spindletop, Sugarland, West Columbia, Humble, Rabbs Ridge	Below 17— .88	2¢	34— 1.22	1- 9-36
South and S. W. Texas	Below			
Refugio (Light)	17— .88	2¢	34— 1.22	1- 9-36
Refugio (Heavy)	* .90			1- 9-36
Saxet	* .90			1- 9-36
Mirando	* .85			1- 9-36
Pettus	*1.25			1- 9-36
Salt Flat	* .97			1-14-36
Darst Creek	* .97			1-14-36
Port Lavaca	* .97			
Plymouth	* .90			12-17-35
Arkansas				
El Dorado (Light) and Rainbow	25— .78	2¢	40— 1.10	1-10-36
El Dorado East Field and Smackover	*.75			1-10-36

* All gravities—flat rate.
† Gulf Coast prices as posted by Humble Oil & Refining Company.

DISTRICT	Low Grav.	Dif.	High Grav.	Date
North Louisiana	25—$0.78	2¢	40—$1.10	1-10-36
Urania	*.97			1-10-36
South Louisiana	Below			
Lockport	19— .92	2¢	34— 1.22	1- 9-36
	Below			
Iowa, Cameron Mds.	19— .82	2¢	34— 1.12	1- 9-36
Rocky Mountain States				
Salt Creek	29— .94	2¢	40— 1.18	1-10-36
Elk Basin	*1.28			1- 9-36
Grass Creek (Light)	*1.28			1- 9-36
Grass Creek (Heavy)	*.58			1- 9-36
Big Muddy	*1.11			1- 9-36
Rock Creek	*1.12			1- 9-36
Sunburst	*1.25			1- 9-36
Lance Creek	* .90			1- 9-36
Osage	*1.08			
Cat Creek	*1.07			8-25-33
Cut Bank	*1.45			9-29-33
Pondera	*1.05			9-29-33
Hog Back, N. M.	*1.00			9- 8-33
Lea County, N. M.	*.75			9-29-33
Mid-West States				
Lima	*1.25			1-10-36
Illinois	*1.23			1- 9-36
Princeton	*1.23			1- 9-36
Western Kentucky	*1.23			1- 9-36
Pennsylvania				
Bradford	*2.45			1-13-36
Sw. Pa. Pipe Line	*2.17			1-13-36
Eureka Pipe Line	*2.12			1-13-36
Buckeye Pipe Line	*1.97			1-13-36
Corning Grade	*1.42			1-13-36
Michigan				
Central Michigan	*1.32			1-14-36
Muskegon	*.70–1.00			12-31-32
Canada				
Petrolia	*2.10			9- 9-33
Oil Springs	*2.17			9- 9-33

* All gravities—flat rate.
‡ Average price, all oil sales being to small refineries.

MAJOR PRICE CHANGES

	Penna. (Nat. Tr.)	Mid.-Cont. (36 Gr.)	Calif. (26 Gr.)
June 19, 1933	Up 10	Up 19	.....
June 26, 1933	Up 10	.....	Up 9-12
July 6, 1933	Up 13	Up 10	.....
July 17, 1933	Up 15	.....	.....
July 28, 1933	Up 15	.....	.....
August 11, 1933	Up 10	.....	.....
August 24, 1933	.....	Up 10	.....
August 30, 1933	Up 15	.....	.....
September 6, 1933	Up 10	Up 10	Up 15
September 8, 1933	.....	Up 15	.....
May 1, 1934	Up 10	.....	.....
November 6, 1934	Cut 25	.....	.....
December 6, 1934	Cut 25	.....	.....
January 4, 1935	Up 15	.....	.....
February 4, 1935	Up 15	.....	.....
May 16, 1935	Cut 15	.....	.....
June 26, 1935	Cut 15	.....	.....
July 16, 1935	Cut 10	.....	.....
August 29, 1935	.....	.....	Cut °4
September 6, 1935	Up 5	.....	.....
October 29, 1935	Up 15	.....	.....
November 1, 1935	.....	.....	Up °28
November 18, 1935	Up 15	.....	.....
December 6, 1935	.....	.....	Up °9
January 9, 1936	.....	Up 10	.....
January 13, 1936	Up 15	.....	.....
February 26, 1936	.....	.....	Up '5

CRUDE PRODUCTION TAXES

Oklahoma—Five percent of gross value less royalty interest.

Texas—Two cents or 2 percent, whichever is higher.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 percent of gross market values.

Montana—Two percent of gross value at well and ⅜ of 1c per barrel.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

* All gravities—flat rate.
° Signal Hill 26 gravity.
' Seal Beach 26 gravity.

CALIFORNIA OIL PRICES

(All gravities above those quoted take highest prices of that field. Effective February 26, 1936)

Gravity	Signal Hill	Seal Beach Alamitos Heights	Huntington Beach	Inglewood	Playa Del Rey	Olinda Brea Canyon	Athens Rosecrans	Elwood Terrace	Torrance	Richfield	Whittier East Coyote La Habra	Montebello	West Coyote Hills	Santa Fe Springs	New Hall McKittrick Kern River Round Mountain	Mountain View	Midway-Sunset Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge
14–14.9	$.80	$.79	$.78	$.79	$.80	$.76	.....	.....	$.80	$.76	$.76	$.77	$.78	.....	$.70	.....	$.70	$.70	$.70	.....
15–15.9	.80	.79	.78	.79	.80	.76	.....	.....	.80	.76	.76	.77	.78	.....	.70	.....	.70	.70	.70	.....
16–16.9	.80	.79	.78	.79	.80	.76	.....	.....	.80	.76	.76	.77	.78	.....	.70	.....	.70	.70	.70	.....
17–17.9	.80	.79	.78	.81	.80	.76	.....	.....	.80	.76	.76	.77	.78	.....	.70	.....	.70	.70	.70	.....
18–18.9	.80	.79	.78	.84	.80	.78	.....	.....	.82	.76	.76	.77	.78	.....	.70	.....	.70	.70	.70	.....
19–19.9	.82	.79	.82	.87	.84	.81	.....	.....	.85	.76	.78	.77	.78	.....	.70	$.70	.74	.74	.71	$.70
20–20.9	.85	.79	.85	.90	.88	.84	.....	.....	.88	.78	.82	.77	.80	.....	.....	.70	.78	.78	.72	.70
21–21.9	.88	.79	.89	.93	.93	.88	.....	.....	.91	.80	.85	.77	.84	.78	.....	.73	.82	.82	.74	.70
22–22.9	.92	.82	.92	.96	.98	.92	.....	.....	.93	.84	.89	.79	.88	.78	.....	.77	.87	.86	.78	.72
23–23.9	.95	.86	.96	.99	1.02	.96	$.84	.....	.96	.88	.93	.82	.92	.78	.....	.80	.92	.90	.82	.76
24–24.9	.99	.91	1.00	1.02	1.06	.99	.88	.....	.99	.91	.96	.85	.96	.82	.....	.84	.97	.94	.86	.79
25–25.9	1.03	.95	1.03	1.05	1.11	1.03	.93	.....	1.02	.95	.....	.89	.99	.86	.....	.88	1.01	.98	.90	.83
26–26.9	1.06	1.00	1.07	1.09	1.16	1.06	.98	.....	1.05	.98	.....	.92	1.03	.90	.....	.91	1.06	1.02	.....	.....
27–27.9	1.10	1.05	1.11	1.12	.....	1.10	1.03	.....	.....	1.02	.....	.96	1.06	.95	.....	.95	1.10	1.06	.....	.....
28–28.9	1.14	1.10	1.14	1.15	.....	1.14	1.07	.....	.....	1.06	.....	.99	1.10	.99	.....	.99	1.15	1.10	.....	.....
29–29.9	1.17	1.15	1.18	1.18	F.O.B.	1.17	1.12	.....	.....	1.09	.....	1.03	1.14	1.03	.....	1.02	1.20	1.14	.....	.....
30–30.9	1.21	1.19	1.22	1.21	Pipe	1.21	1.17	F.O.B.	.....	.....	.....	1.07	1.17	1.08	.....	1.06	1.25	1.18	.....	.....
31–31.9	.....	.....	.....	1.24	Line	1.24	1.22	Ship	Kettleman Hills			1.11	1.21	1.12	.....	1.09	1.29	.....	.....	.....
32–32.9	.....	.....	.....	1.27	.....	1.27	1.27	.....				1.14	1.25	1.16	.....	1.13	1.34	.....	.....	.....
33–33.9	.....	.....	.....	.....	.....	.....	1.32	$1.28		1.19		1.18	1.28	1.20	.....	1.17	1.38	.....	.....	.....
34–34.9	.....	.....	.....	.....	.....	.....	1.37	1.32	.....	1.23	.....	1.22	1.32	1.25	.....	1.20	.....	.....	.....	.....
35–35.9	.....	.....	.....	.....	.....	.....	1.42	1.35	.....	1.27	.....	1.25	.....	1.29	.....	.....	.....	.....	.....	.....
36–36.9	.....	.....	.....	.....	.....	.....	1.46	1.39	.....	1.31	.....	1.29	.....	1.33	.....	.....	.....	.....	.....	.....
37–37.9	.....	.....	.....	.....	.....	.....	1.51	1.43	.....	1.35	.....	1.32	.....	1.37	.....	.....	.....	.....	.....	.....
38–38.9	.....	.....	.....	.....	.....	.....	1.56	.....	.....	1.39	.....	1.36	.....	1.42	.....	.....	.....	.....	.....	.....
39–39.9	.....	.....	.....	.....	.....	.....	1.61	.....	.....	1.43	.....	1.40	.....	.....	.....	.....	.....	.....	.....	.....
40–40.9	.....	.....	.....	.....	.....	.....	1.66	.....	.....	.....	.....	1.43	.....	.....	.....	.....	.....	.....	.....	.....

WORLD DEVELOPMENTS and TECHNOLOGY

Edited by
WM. V. GROSS, Associate Editor

COSTLY PERMITS
Saskatchewan wildcatters must post $5000 bond

Application for permit to drill an oil or gas test in the Province of Saskatchewan, Canada, must be accompanied by a bond of $5000 if the application is for one well, or by a bond of $25,000 if the application is for two or more wells, according to the recently passed Saskatchewan Oil and Gas Wells Act of 1936.

The act in itself contains no restriction on drilling on the part of foreigners, but is understood to be in the nature of an amplification of the Saskatchewan Mineral Resources Act of 1931, which provides that leases to the mineral rights vested in the crown may be acquired only by a company registered or licensed in Canada and having its principal place of business within the British kingdom.

In addition to the bond clause, the new act provides for issuance of drillers' licenses by the minister of natural resources and governs drilling and inspection of wells during drilling. It also authorizes issuance of regulations with respect to management and operation of wells.

Thus far the only commercial production in the province is near the town of Lloydminster, where Lloydminster Oil & Gas Company is producing natural gas from a few wells.

CONTROLLED PRICE
Poland's minister given full regulatory power

Almost complete elimination of operation of natural market factors in determining prices of crude and refined oils in Poland is seen in a new decree empowering the minister of industry and commerce to fix prices of petroleum products on the domestic market and to exercise his influence in rationalizing the production methods in the industry, according to word received from Warsaw. In addition, the minister has been given control over import and export, control over prices of crude oil and domestic sales thereof, control over accumulation of stocks and over production of oil.

The new decree was made as an amendment to the law of March 18, 1932, to eliminate certain confusion in the industry resulting from recent compulsory governmental reduction of prices of petroleum products. Under the old act, refineries were formerly compelled to contribute toward a fund for financing new drilling. These contributions may now be shifted to export subsidies on petroleum products, and the minister will be empowered to establish additional funds for financing oil-well drilling.

The reason behind passage of the new legislation was a real fear that further reduction in the price of crude oil in Poland would result in the closing of producers and suspension of drilling.

Under Poland's old law, small producers of less than 6000 tons annually were definitely favored as against larger enterprises. The government had assured the small independents adequate financial return regardless of whether their operations were conducted in an efficient manner. Also, they had been exempt from the export requirement imposed on other concerns. Under the new decree, however, the minister is empowered to equalize the treatment accorded various concerns and to spread funds and subsidies in a more equitable manner.

DEL BONITA TEST
Well to be drilled near International boundary

A wildcat will be drilled on Del Bonita structure in Alberta, Canada, four miles north of the international boundary, by Sunshine Oil Company, according to an announcement made immediately after acquisition of a substantial block of Sunshine Oil Company stock by Imperial Oil Company. Hugh Reid, president of Sunshine Oil Company, stated the deal is subject to examination of titles and in no way involves transfer of control or management of the company to Imperial Oil Company, as the latter has not even requested representation on the board of the former.

SWISS WILDCAT

Information from Bern, Switzerland, states a 60-meter steel derrick has been erected for Neuchavaud Company's wildcat near Cuarny. Apparently it will be a deep test, for the Swiss press has carried recent items stating the well would use the "strongest rotary equipment in the world."

F. J. G. Vingerhoets, wildcatter who has attained considerable prominence in Germany, is known to have been active in formation of the Neuchavaud Company and in selection of the location on an anticline near Cuarny.

BIG INITIAL FLOWS
Two Bahrein wells yield above 20,000 barrels

Bahrein Petroleum Company, Limited, recently cabled Standard Oil Company of California, parent company, that it had just completed two of the largest producers brought in thus far on Bahrein Island, Persian Gulf.

No. 31, the most recent completion, was rated initially at 26,880 barrels per day from regular pay at 2273 feet. Just prior to completion of No. 31, the company completed No. 29 for an initial production of 20,400 barrels, bringing the total number of producers on the island to 26.

Although Bahrein Petroleum Company, sole operator on the island through a concession held from the government there, is restricting output of the field to market requirements, the company disposed of 1,265,000 in 1935 and has committments for shipments of approximately 10,000 barrels daily during 1936. In addition to this, the local refinery of Bahrein Petroleum Company will call for 10,000 barrels daily, indicating a production of at least 20,000 barrels daily on Bahrein Island during the last quarter of 1936, or about 4,550,000 barrels for the year.

Bahrein lies 25 miles off the coast of Arabia and is geographically a part of that country, but not a part of the Kingdom of Saudi Arabia. The discovery well of Bahrein is 12 miles south of Manama, capitol of the island and 340 miles southeast of Basra, on the mainland. The first well, Jebel Dukhan 1, was completed at 2008 feet in June, 1932, for an initial production of 500 barrels of 33.8 Baume gravity oil.

The structure of Bahrein is an elongated dome with the major axis striking north five degrees west. The crest of the dome is broad and flat with dips increasing on the flanks. Oil and gas come from a fractured limestone, with some calcareous sand and marl. Producing formations, found at from 1850 to 2500 feet, produce mixed-base oil ranging in gravity from 30.6 to 34.6. Present productive area of the field is not known, but in June, 1934, more than 10,000 acres had been proven productive.

GAS IN TURKEY

Exploratory efforts of the Turkish government to develop commercial production resulted in completion of a small gas well near Mardin, May 13, according to word received from the director of drilling at Mardin. Drillers on the Turkish wildcat were both imported from Texas for the job. They are S. H. Russell of Dallas and George Schelling of Houston.

More Water Wells

OKLAHOMA CITY AREA GETS ADDITIONAL LIMITATIONS

WEEKLY STAFF REPORT

Oklahoma City.—The most important field development news of the week in Oklahoma was furnished by the Mansion area of the Oklahoma City field, where additional wells on the northern limits encountered water in the Wilcox sand horizon. These wells further resulted in more definite knowledge of the water level and in more clearly defining the producing limits.

As a result of the additional water wells, state officials took up the problem of water encroachment in the north extension area. W. J. Armstrong of the Corporation Commission of Oklahoma called operators together June 5 to discuss the situation. Well owners brought well records, geological data and engineering information, upon which it is hoped an operating procedure may be determined. An order restricting drilling depth may be promulgated.

Pending a formal order from the Oklahoma Corporation Commission, operators in the north extension of the Oklahoma City field have agreed to a drilling depth of 5275 feet below sea level as one means of counteracting intrusion of salt water. The present drilling limit in the area is 5330 feet below sea level.

Other practices to be observed are, to set casing at the top of the Wilcox sand, use steel line measurements for all wells and to drill in either under pressure or with cable tools.

These practices were agreed to June 4 and 5, when operators met with W. J. Armstrong, chief conservation officer of the corporation commission, who said he would recommend them as an order of that body later.

Another action of the meeting was the naming of a committee, which will make further study of water conditions in the extension. R. W. Brauchli of Anderson-Prichard Oil Corporation, is chairman.

A week ago, Anderson-Prichard Oil Corporation completed Wheeler 1, SE NW 15-12-3w, for 267 barrels of oil and 24 percent water. Since then, two additional wells have located water and another has been a very small well. All the wells are in the north part of the northern extension area, and although the salt water limits of the producing zone have not been determined definitely, there is small chance that production extends further west or north than the limits already defined. Important wells that will more accurately locate the water line between known limits are now drilling, although few are near the producing depth.

Barnsdall Oil Company's Lyons 1, SEc 22-12-3w, made 548 barrels of oil during a test period before salt water killed the flow. Increase of water in this well was steady. The location is near Lindsay Avenue and Northeast 34th Street, and is only three blocks west of a 20,000-barrel producer of Phillips Petroleum Company.

Anderson-Prichard Oil Corporation's Proffitt 1, one block north of present production, further defined the water zone when it became flooded with salt water during a test period. The well is bottomed at 6475 feet, and while on potential test averaged 77 barrels of oil with 41 percent water.

Anderson-Prichard Oil Corporation's Wheeler 1, the first well of the area to make water, is to be plugged back 8 feet from its former depth of 6531 feet before making another test.

Barnsdall Oil Company and Bay Oil Corporation's Guthrie 1, at Northeast 36th Street and Lincoln Boulevard, near Wheeler 1, averaged but 350 barrels a day from the Wilcox sand at 6480 feet. Some operators consider this well of particular significance due to its low production.

Within the proven area, British American Oil Producing Company and Midway Oil Company's Warr 1 was completed and given a potential rating of 15,059 barrels of oil, with 13,700,000 cubic feet of gas. The same operator's McNabb 5 flowed 3379 barrels in five hours on test from 6468 feet. The Warr location is at Northeast 27th Street and Phillips Avenue; the McNabb well at Northeast 32nd Street on the same avenue.

Phillips Petroleum Company's Cooper 1, Northeast 30th Street and Phillips Avenue, was drilled in under pressure and made 200 barrels an hour. On potential test it was given a daily rating of 11,266 barrels from 6496 feet, and produced 8,400,000 cubic feet of gas. The same company's Liberty 1, Northeast 25th Street and Laird Avenue, and its Sawyer 1, at Northeast 33rd Street and Laird Avenue, were drilling in in the pay at 6440 and 6443 feet respectively, and were near completions.

Empire Oil & Refining Company's Levy 1, in the southeast corner of the north Oklahoma City extension, and important by reason of its location, at Northeast 31st Street and Lincoln Boulevard, completed a potential test of 1867 barrels from 6495 feet.

Continental Oil Company's McConnell 2, NW SE SE 28-17n-4w, in the Crescent pool, Logan County, flowed 500 barrels during 50 minutes of a test and 500 barrels during 45-minute period. Hole was bottomed at 6305 feet and was being drilled deeper.

Carter Oil Company's Miller 2, SW NE SE 28-17n-4w, in the same area, was shot at 6283 feet and settled to 60 barrels an hour.

After being deepened to 7318 feet, Sinclair Prairie Oil Company's Franklin 1, SE NW SE 21-10n-2w, discovery well in the Moore pool, Cleveland County, was given its second test June 5 and made 1571 barrels the first hour, 1415 barrels the second hour and 1258 barrels the third hour.

The first two hours were against back pressure of 330 pounds, and the third hour against 350 pounds back pressure. The well has been shut in for tankage. Top of the Wilcox sand is 7268 feet.

OKLAHOMA

Completions

Company, Well and Location	Init. Prod. Bbls	Depth
CARTER COUNTY—		
Jones Bros., Dillard 4, ne sw se ne 22-4s-2w (otd 1432)	15	2596
Shell Pet., Wirt Franklin 66, sw sw ne 8-4s-3w	*	1306
Wirt Franklin 68, nw ne ne 8-4s-3w	10	1154
Sinclair Prairie, Apple-Franklin 7, sw sw nw 9-4s-3w	25	1083
COTTON COUNTY—		
Shasta Oil, Cobb 12, sw se ne 2-2s-10w	20	2170
CREEK COUNTY—		
Sinclair Prairie, Kernal 1, sw sw ne 30-14n-8e (otd 3425)	200	4023
Skelly, Carr 1, nw sw se 30-15n-9e (otd 3028) (pb 3582)	50	3592
Riverland Oil, Burgess 1-A, sw sw sw 32-15n-9e	25	1274
Royal O. & G., Knoll 9, cne sw 22-16n-8e (otd 3116)	*	3707
Sinclair Prairie, Jones 5, se se nw 4-17n-7e (otd 2612) (pb 2710)	32	2771
Irik Oil, Hawkins 2, sw ne sw 15-18n-8e	*	2862
Curtis Oil, Kelly 1, nw nw sw 5-18n-9e	*	2607
Bert Swift, King 4, se nw sw 7-18n 10e	*	2342
Big Four Pet., Briggs 3, sw sw sw 35-19n-8e (pb 2368)	40	2544
HUGHES COUNTY—		
Minnehoma Oil, Brown 2, se ne ne 17-7n-8e	*	3260
Caprock Oil, Parks 1, sw sw se 34-7n-8e	*	250
Carter Oil, Hampton 6, nw se ne 1-9n-8e	336	1740
Chapman, Fee 2, ne ne nw 1-9n-8e	150	1703
Mid-Continent, Hampton 8, nw nw ne 1-9n-8e	816	1720
Manahan Oil, Oliphant "D" 2, ne se sw 12-9n-8e	*	1805
Kingwood & Phillips, Rogers 7, ce¼ sw sw 3-9n-9e (otd 1096)	*	1117
JACKSON COUNTY—		
Gulf Oil, Eley 3, ne nw se 10-1n-20w	140	1523
Pioneer Oil, Rawls 1, sw nw ne 26-1n-20w	*	lcn.
KAY COUNTY—		
Morgan et al, Shurtz 4, cse nw 31-29n-1e (otd 2000)	*	2622
LINCOLN COUNTY—		
Sinclair Prairie, Hoyt "B" 1, ne nw ne 5-14n-3e	1200	5088
LOGAN COUNTY—		
Carter & Gulf, Walker 2, sw ne ne 33-17n-4w	5039	6242
LOVE COUNTY—		
Ben Russell, John Scott 1, sw se sw 29-8s-2e	*	4965
MARSHALL COUNTY—		
Leavell Coal, Brent 5, nw nw se 1-8s-5e	4	567
NOBLE COUNTY—		
Continental et al, Lively 1, nw se sw 19-20n-1w	*	5148
Twin State, Pfeiffer 2, cn¼ nw sw 33-20n-2w	2607	5099
OKFUSKEE COUNTY—		
Manahan Oil, Dolton 6, ne se se 36-10n-8e	170	1753

Company, Well and Location	Init. Prod. Bbls.	Depth
OKLAHOMA COUNTY—		
Pure Oil, Malm 7, sw ne sw 30-14n-3w	¶18-9668	6697
Continental, Young 7, ne nw nw 31-14n-3w	¶8½-7796	6710
Westgate Oil, Carey 10, ne ne se 34-12n-3w	1208	6382
OKMULGEE COUNTY—		
Acme, Rentie 4, ne nw sw 19-14n-15e	*	1225
Aggis Drlg., McKinney 4-A, cwl nw sw 16-15n-14e	25	854
Reliance Oil, Anthis 6, cel nw ne 27-16n-11e	¶2-15	2460
Klingensmith, Farr 15, nw ne nw 35-16n-11e	*	1860
Farr 16, sw se nw 35-16n-11e	180	2330
OSAGE COUNTY—		
Elfred, Beck 1, se se ne 6-23n-7e	*	2640
Fields 2, cel w½ e½ sw 12-21n-11e	5	1825
Sills, 12, nw se sw 8-23n-11e	5	1820
Lewis Prod. 4, nw nw sw 10-24n-7e (pb 2335)	96	2570
Harland Oil, 77, ne nw ne 25-24n-11e (pb 1820)	3	1868
Champlin Ref. 1, sw sw ne 35-25n-6e	*	2935
PAWNEE COUNTY—		
Adamson, Parker 3, csl se se 24-21n-7e (otd 2742)	6	2797
Grieves, Anglin 5, sw se nw 31-21n-8e (otd 2607) (pb 2835)	7	3128
Donohue, Vaughn 2, sw ne nw 27-23n-4e	17	3258
PAYNE COUNTY—		
Wood Oil, Arnold 1, ne sw nw 12-17n-6e	30	2420
PONTOTOC COUNTY—		
Indian States Oil, Byrd 1, ne ne se 35-2n-6e		lcn.ab.
Stahl, Dennis 3, sw se sw 21-2n-7e	¶2½-3374	4335
Blackstock, Moody 1-A, ne ne ne 27-2n-7e	1920	3396
Samedan Oil, Holkum 2-B, ne sw ne 27-2n-7e	¶3½-5000	3366
Sinclair Prairie, Burris 6, ne ne nw 27-2n-7e	¶2½-2639	4300
Magnolia, Shelton 1, se se sw 28-2n-7e	2736	4387
Magnolia, Simpson 8, ne ne ne 39-2n-7e	1200	3764
Moore, Harper 5-A, sw nw ne 29-2n-7e	¶1¾-3036	4340
Schauers 6, sw se nw 29-2n-7e	¶3¼-2896	4350
Texhoma Oil, Fitzgerald 1, se ne nw 29-5n-8e	*	1175
POTTAWATOMIE COUNTY—		
Blackwell, Waylahpease 2, sw nw sw 7-9n-5e	*	4420
SEMINOLE COUNTY—		
Blackwell, Harjo 3, nw sw se 12-5n-7e (pb 4120)	157	4429
Sinclair Prairie, Sunny 5, ne nw nw 14-7n-6e (otd 4270)	25	4350
Magnolia, Cudjo 1, ne ne ne 24-7n-6e	*	3277
Clark & Cowden, Cully 1, ne ne nw 13-5n-7e	346	4255
Carter et al, Wilson 1, cn½ sw ne 35-11n-6e	720	4127
STEPHENS COUNTY—		
Shirley Clumm, Gilmore "B" 3, cn½ nw ne 10-2s-5w	*	1674
Mudge Oil, Robertson 5, se sw sw 10-3s-5w	15	1447
Nash et al, Sadler 1, nw nw se 30-2n-4w	*	180
TULSA COUNTY—		
Mechling, 1-A, cne 14-19n-13e	15	950
WAGONER COUNTY—		
Moore, Nave 1, ne sw sw 9-17n-15e.	*	1965
Thomas et al, Atkins 1-A, sw nw ne 16-17n-15e	6	1352

*Failures; †Junked; ¶Million cu. ft. gas.

LOVE COUNTY WELL

88-barrel per hour well completed near Marietta

Ardmore.— Love County definitely joined the list of Oklahoma oil producing counties with the completion of Amerada Petroleum Corporation and Stanolind Oil & Gas Company's Westheimer 1-A, SW SE SW 27-6s-2e, north and east of Marietta. Production is from the Viola lime at 2790 feet. At first estimate, after 600 feet of live oil rose in the hole, production was believed to be about 50 barrels per day. After acidizing, the well made an average of 88 barrels per hour over a period of six hours through 2½-inch tubing. Tankage is being erected for further testing.

This well is a deep test that found water at a total depth of 7363, and which was plugged back to the Viola lime at 2790 feet. At this point the casing was gun-perforated and acidized under a top oil load of 277 barrels. During the last hour of the test, the well made 84 barrels of 38 degree gravity oil. Gas volume was estimated at above 5,000,000 cubic feet per day.

This completion is the second well to start on the same lease, the first having been junked last year at 1703 feet.

EXTEND BURBANK

Tulsa.—Activity during the past week in northern Oklahoma featured an important completion along the east stringer of the Burbank pool, Osage County. It is one half mile from Lewis Production Company's Callahan 2, and added considerable acreage in the proven zone.

Kewanee Oil & Gas Company's Renald 7, NW NE SW 26-26-6e, was completed early in the week in the Bartlesville sand at 2938 feet. Pay was from 2853 to 2938 feet, with the entire zone productive. On a 24-hour test the well made 1193 barrels and 4,000,000 cubic feet of gas, and was then shut in. This well is the seventh producer on a 160-acre tract purchased at the 1935 Osage sale.

EXTEND HUGOTON

Hugoton.—T. P. Curran and associates, who have secured franchises to supply Deerfield, Scott City and other adjacent towns in west Kansas not at present supplied with natural gas, are completing an extension to the Hugoton gas zone. Their Hamlin 1, SW NE 31-24-34, Finney County, was estimated at more than a 1,000,000 cubic feet and was drilling ahead in the laminated gas pay of that area. Rock pressure of the gas producers is between 410 and 425 pounds.

Find New Areas

McPHERSON, BARTON, RICE AND ELLIS COUNTIES INTERESTING

Wichita.—Interest in Kansas during the past week centered in Empire Oil and Refining Company's east-central McPherson County well that filled with oil from the chat at 2826 feet. Location is SEc 26-18-1w, north of the Ritz-Canton pool and is the company's Cunningham 1. Showing for a good producer when first hitting the pay, operators were disappointed when the first test was made.

Tested on the pump for a 24-hour period, the well made only 106 barrels, 75 barrels of which was water. Standardized after entering the chat, 8-inch casing was set at 2810 feet in chat topped at 2803 feet. It is believed probable that the pumping test of the well produced the water from behind casing, and that further efforts will locate the water source definitely. If such is the case, this well means an extension of the Canton-Decker trend in the county.

In Barton County, National Refining Company's McLean 1, SW NE 25-17-11w, diagonal offset to the Yarnell & Carlson Bloomer 1, the discovery well of the Bloomer field, came in for 1836 barrels from the Arbuckle lime. This is the fourth completion for this area, the discovery well being the smallest, making only 470 barrels. It is believed by operators that Bloomer 1, NE SW 25-17-11w, was not cleaned properly, and it is to be drilled deeper in the hope of bringing its production up to that obtained in more recent completions. In the same field The Texas Company's Moran 1, SE NE NW 25-17-11w, was completed April 28 for 1764 barrels, and its Bloomer 1, NWc SE 25-17-11w, was completed in May for 1853 barrels. Two wells are drilling at present.

Darby Petroleum Company's Johnson 1, SE SE SW 10-21s-7w, claimed the attention of Rice County operators when it extended the chat production of the Wherry pool to the southwest. On a 24-hour test the well made 2160 barrels of oil free from water. This well is in the recognized chat area. The producing zone was encountered at 3367 and penetrated only two feet. Same operators will immediately start Johnson 2, CEL SW 10-21s-7w, and Johnson 3, CSL of the same quarter.

An important extension to the Shutts pool, Ellis County, was made when Lario et al's 1, SE NE SW 2-12-18w, established a potential of 1159 barrels for a 24-hour test, on the pump. Production is from the Topeka lime topped at 3060 feet, pay being from 3164 to 3165. A small quantity of water accompanied the oil. The completion is two miles west of nearest production in the Shutts pool on the Central Kansas Uplift.

Margay Oil Company and associates' Bemis 2-A, NE SE SE 16-11-17w, in the Bemis pool, Ellis County, encountered a good show of oil in the Arbuckle lime at 3360 feet and was preparing to test late in the week. Their Bemis 1-B, completed some weeks ago, was recently given a new potential of 2202 barrels from the lime at 3380 feet. This latter well is one mile to the south of the well preparing to test.

A. A. Buschow, Sr., Ernie Shaffer et al's Hauschild 1, NW NE NE 15-21-7w, in the Hauschild pool of Rice County, an offset to the same company's discovery well, was tested during the week. During

5½ hours the well produced 2382 barrels, an average of 433 barrels per hour, natural. This well is a definite extension of chat production on a trend from the Wherry pool, southeast Rice County.

25 KANSAS STARTS

Wichita.—A total of 25 first reports were made in Kansas during the past week, McPherson and Rice counties leading with 4 each, Barton and Ellis next with 3 each and Reno trailing with 2. The other first reports were scattered among nine counties.

Seventeen oil wells were completed during the week for a total initial production of 16,061 barrels, considerably below last week's report. Of the other completions, 7 were dry holes and two were abandoned locations. The total number of completions, including oil wells, dry holes and abandoned locations was 27.

KANSAS

Completions

Company, Well and Location	Init. Prod. Bbls	Depth
BARBER COUNTY—		
Barbara Oil, Magnison 1, cse sw 11-33s-13w	*	lcn.
Angel 3, se se nw 23-33s-13w	*	lcn.
BARTON COUNTY—		
Darby, Smith-Ash et al, Turgeon 1, cs½ s½ sw 9-16s-12w	390	3349
Ramsey et al, Hunt 1, nw nw nw 10-18s-11w (pb 3400)	*	3304
Magnolia, Meda Steckel 5, sw ne nw 1-20s-11w	1103	3298
Buchanan & Alexander, Langford 1, ne ne sw 14-20s-11w	1320	3294
BUTLER COUNTY—		
Sanford et al, Weaver 1, se se ne 11-28s-5e	*	2800
ELLIS COUNTY—		
Winkler-Koch et al, Hadley 1, se se nw 21-11s-17w	2037	3360
Lario et al, Walter 1, se ne sw 2-12s-18w	1157	3165
Tom Palmer, Schoenthaler 1, ne ne nw 31-12s-19w	*	3875
GREENWOOD COUNTY—		
Moore O. & G., Pixlee 4-C, se ne se 7-22s-10e	50	2333
Shull Drlg, Henchman 2-C, sw sw ne 17-24s-13e	85	1611
RICE COUNTY—		
Hutchinson Oil, Wendell 3, se nw ne 32-19s-10w	764	3340
Wendell 5, nw sw ne 32-19s-10w	2203	3329
Gulf Oil, Coffman 5, sw sw sw 5-20s-9w	1378	3259
Sinclair Prairie, Kelley 1, nw nw nw 22-20s-10w	1243	3397
RENO COUNTY—		
Shell Pet., Collins 1, nw nw sw 16-24s-4w	1816	3391
Tide Water Oil, Burrton State Bank 1, se se nw 17-24s-4w	557	3375
McPherson Drlg., Mount 1, nw nw ne 20-24s-4w	406	3374
RUSH COUNTY—		
Rose Spring et al, Jacobs 1, sw se nw 8-16s-17w	*	3604
RUSSELL COUNTY—		
Stearns & Streeter et al, John Hancock Ins. Co. 1, se sw sw 31-12s-14w	*	3205
Central Pet., Furthmeyer 1, ne ne ne 28-14s-15w	*	3322
Bailey & Bailey, Galliart 1, ne se sw 34-15s-12w	*	3618
Southern Oil, Berry 2, nw sw nw 34-15s-13w	1103	3339
SCOTT COUNTY—		
Atlantic Oil, Mark "B" 1, cnw sw 14-20s-33w	*	lcn.
SUMNER COUNTY—		
Shell Pet., Community 4, ne nw ne 14-32s-2e (pb 2976)	379	2986
TREGO COUNTY—		
Alma Pet. & McNeeley, Rhodes Estate 2, cnw ne 14-11s-23w (pb 3520)	70	3563

*Failures; †Junked; ¶Million cu. ft. gas.

Jack Wildcat Shows

BRYSON EXTENSION 300 FEET SHALLOWER THAN FIELD

WEEKLY STAFF REPORT

Wichita Falls, Texas.—Hammon & Meredith's F. H. Rhodes 1, semi-wildcat in western Jack County, 1 mile east of production in the Bryson field, filled 2000 feet with oil when given preliminary test last week in Strawn sandy-lime zone at 2433-2449 feet, with casing cemented on top of the pay zone. It is located in the east portion of the R. N. Erwin Survey, A-1376, and is about 300 feet shallower than other producers in the area. Owners have ordered pumping equipment installed.

Drilling was resumed the past week on Port Bolivar Oil & Refining Company's Clarkston-Durning 1-A, Collin County wildcat that is seeking production from the Ordovician lime series, after being idle at 3866 feet since last December. It has drilled to 3950 feet, logging hard chert and lime formation. Olson Drilling Company et al's Southwestern Life 1, Grayson County wildcat on the Preston anticline, has been further delayed by the loss of about eight joints of drill pipe while fighting heaving shale and cavings. The hole is bottomed at 5890 feet, where a section of drill pipe was lost in April, and heaving shale appeared when the hole was plugged back to 5440 feet to try to sidetrack. Both of these wildcats are contracted to drill to 6000 feet. Sunray Oil Company and Sinclair Prairie Oil Company's A. C. McCall 1-A, projected 5000-foot test for northern Cooke County, has been delayed about one month with collapsed 10-inch pipe cemented at 664 feet. The hole is bottomed at 4729 feet.

Perkins-Cullum Oil Company's Young & Langford 1, Block 127, J. W. Harris Subdivision, several miles southwest of the Chalk Hill field, Archer County, failed to produce from the first Canyon sandy-lime zone, and will be deepened to the lower Canyon near the 2800-foot level. It was drilling near the 2700-foot level, according to late reports, having logged Gunsight lime at 1392-93½ feet. Riner & Massie's L. F. Wilson-McCrory 1, Block 118, south of Canyon production in the Chalk Hill area, cored oil saturated sand at 2198-2201 feet, but failed to attain water shut-off in landing pipe on top of the oil horizon.

Test to Abandon

ORDOVICIAN WILDCAT SHOWS OIL AND SULPHUR WATER

San Angelo.—Mangus Oil Corporation's Judkins and Spencer 1, Schleicher County Ordovician lime test, was preparing to take steel line measurement and abandon late last week after yielding sulphur water with only a small trace of oil from Ellenberger limestone at 6168 feet. Top of the Ellenberger was logged at 5902 feet, with an elevation of 2209 feet.

Cardinal Oil Company and Rowan-Nichols Oil Company's Whiteen 1, which is also seeking production from the Ellenberger on a Schleicher County wildcat block, has progressed beyond the 4700-foot level.

Landreth Production Corporation's Kirk 1, south central Gaines County wildcat, was coring hard gray lime formation at 4595 feet, or 1324 feet below sea level, with production due within the next 100 feet.

Increased drilling activity is in store for the Goldsmith field, Ector County, in view of the recent completion of Wm. H. Dunning et al's Cummins 1, which extended production about three miles to the west with a natural flow of 405 barrels of oil. It is producing from dolomite lime at 4214-4252 feet, with the hole bottomed at a sub-sea depth of 1032 feet. A number of companies hold leases between this outpost producer and the main section of the field.

Gulf Oil Corporation's Goldsmith-Scharbauer 6, an inside location, gauged 546 barrels of 35 gravity oil and 5¾ million feet of gas after a 140-quart nitro shot in lime at 4158-4213 feet. It was drilled to 4260 feet, or 1107 feet sub-sea, and plugged back to 4225 feet after encountering water.

In the Henderson field, Winkler

County's most prolific area, Wahlenmaier Petroleum Corporation and Atlantic Oil Producing Company's Leck 2-C has been abandoned as a junked test after experiencing a gas blowout at 2830 feet. Craters had started forming around the location when circulation was restored. The mishap prevented the withdrawal of the drill pipe. An offset location will follow, as Leck 2-C is a north offset to one of the largest producers in the field.

SCARBOROUGH HEARING

Austin.—A special hearing on the Scarborough area in Winkler County has been requested by E. A. Landreth, Fort Worth independent, who operates several leases in this area.

Landreth said that the commission should include Goldsmith, Dunning, and other new fields in this area, and that he would request a commission order providing for 40-acre spacing. No opposition to this program is expected, Landreth said.

SULPHUR WATER SHOW

Ranger, Texas.—Seaboard Oil Corporation's Julia Dawson 1, second test on Pottsville structure, Northwestern Hamilton County, was drilling below 3730 feet late last week. It has penetrated 739 feet into the Ellenberger lime, which showed sulphur water when formation tester was used at 3034-80 feet, with an elevation of 1445 feet. Dawson 1 will be deepened to the Hickory sand member of the upper Cambrian, then, if non-productive, will be plugged back for dry gas passed up in the Marble Falls lime near the 2500-foot level.

TALCO HEARING

Meeting postponed until some later date

Austin.—Hearing on the Talco field which was scheduled for last Tuesday, June 2, has been indefinitely postponed by the Texas Railroad Commission.

Representatives of land and royalty owners who appeared before the commission when the hearing was called last week advised that they are not prepared to present the necessary technical evidence, and asked a 60-day delay.

This program was opposed by Humble Oil & Refining Company, at whose request the hearing had been called, and Hines Baker, Humble Oil & Refining Company attorney, urged that a delay of no more than 30 days be granted.

From the discussion it was apparent that independent producers and land owners would urge the commission to make no attempt to reduce spacing regulations for the field, and that the major companies would ask for a 10 or 20 acre rule.

At the conclusion of the hearing Commission Chairman Ernest O. Thompson said that announcement of a date would be postponed until the Statewide hearing on June 18, and that the hearing would not be held until at least 10 or 20 days after the Statewide hearing.

NORTH TEXAS
Completions

Company, Well and Location	Init. Prod. Bbls	Depth
ARCHER COUNTY—		
Consolidated Oil Co. et al, G. A. Lauter 1, sec 2	*	1388
Continental, J. J. Perkins 1-B	*	1301
Deep Oil Dev. Co.-Lindsey Drl. Co., Wilson 14, lse 4	1920	2237
N. D. Goldsmith et al, L. F. Wilson 2, sec 1	*	1623
Hamilton Pet. Co., Abercrombie 40	55	1170
Abercrombie 42	85	1183
Huggins Oil Co., J. J. Perkins 2, blk 24	*	1100
Kimbell & Bohner, Carpenter 12, sec 39	*	1075
Maro Co., Inc., J. S. Bridwell 1, sec 1827	*	952
Rathke Oil Co., B. C. Andrews 1	*	1021
Wilson & Ligon, J. M. Powell 4, blk 116	*	1256
CLAY COUNTY—		
Block Nine Oil Co., W. A. Reid 20, blk 9	6	1791
Texas Co., Saner 2, lot 3	*	1620
COOKE COUNTY—		
Hudspeth et al, Trubenbach 6-B	*	968
F. W. Merrick, Inc., Knabe 30, blk 12	3	850
J. M. Russell et al, B. B. Bawley 1, blk 24	*	1163
Seitz-Comegys & Seitz, Inc., Trew 8-A	170	1263
Trew 9-A	350	1217
JACK COUNTY—		
Cable Oil Co., S. J. Christian 2	*	754
P. F. Gwynn & Overby, W. B. Love 1	235	2984
B. F. Rankin 2	1200	3014
Luther Hedrick et al, L. W. Scott 1, blk 13	*	752
John Korp et al, Bloodworth 2, blk 6	4	304
Dora Horn 2, blk 8	*	315
Georgia Lewis 3, blk 7	*	310
MONTAGUE COUNTY—		
O. V. Beck et al, Davenport 19	50	1729
Perkins & Cullum, Howard 10	26	1407
WICHITA COUNTY—		
G. W. Cooper et al, Waggoner Bros. 40, blk 14	40	1334
King Oil Co., Waggoner Est. 9-H	30	1578
H. L. Rugeley et al, Waggoner Est. 10, sec 148	80	1966
WILBARGER COUNTY—		
Fain-McGaha Oil Corp., Waggoner Est. 11-Y, sec 43	40	2429
King Oil Co., Waggoner Est. 3-N, sec 104	*	1784
YOUNG COUNTY—		
C. E. Beavers et al, Barnet-Gibbs 4, sec 2245	*	700
L. T. Burns et al, Benson 1-C, sec 1482	*	952
Chambers & Humphreys, Benson 3, sec 1392	67	902
Duncan et al, Benson 11, sec 1391	*	915
B. N. Honea et al, fee 15, sec 1492	25	856
Kimmell, Lee & Co., Cullers 12, blk 19	10	571
Owenwood Pool Oil Co., M. L. Clark 1, sec 202	*	901
E. E. Reynolds et al, J. D. Foster 1, sec 611	*	810
Texas Co., Nora Finch 11-B, sec 40	14	752
Jeffery 13-B, sec 42	*	800
Underwood Drl. Co. et al, Campbell 15-A, sec 1376	60	878
Campbell 19-C, sec 3401	*	917

*Failures; †Junked; ¶Million cu. ft. gas.

WEST CENTRAL TEXAS
Completions

Company, Well and Location	Init. Prod. Bbls	Depth
BROWN COUNTY—		
L. Ehlinger et al, Armstrong 2	30	1298
R. M. Ragsdale et al, Newton 1	*	1401
CALLAHAN COUNTY—		
R. Arrowwood et al, Henderson 1	*	450
L. Fikes et al, Jackson 2	105	999
Kleiner & Warren, Jackson 2	*	1275
Geo. A. Perry et al, Finley 1	*	915
Pueblo Pet. Co., Snyder 1-A	1	950
L. A. Warren et al, Jackson 2	85	1011
J. A. Watt et al, Hickman 1	*	1329
COMANCHE COUNTY—		
J. F. Carter et al, Haynes 1	¶13	2725
EASTLAND COUNTY—		
Mook-Texas Oil Co., Sibley 1-A	*	3497
States Oil Corp., Spencer 1	*	1690
PALO PINTO COUNTY—		
A. S. Hickok et al, Robinson 1	36	1536
SHACKELFORD COUNTY—		
Albany Oil Co., Davis 9	*	1803
Baker & Pardue, Morris-Buie 4	60	1607
Bell-O&G Co., Davis 1	*	1852
Grisham-Hunter Corp., Cloud 1	*	1242
Grooner & Rose, Davis 1	*	1747
J. L. Hart et al, Montgomery 1	*	1759
Hoffman & Page Co., Morris-Buie 19	10	1601
Humble, Nail 1-C	*	1610
Keough & Heltzel, Davis 1	*	1820
Morlang & Kingery, Davis 3, sec 4	25	1621
S. B. Owens et al, Morris-Buie 1	25	1610
Ray & Staniforth, Vickers 4	260	1598
Vickers 5	5	1584
Reliance Oil & Roy. Co., Nail 2-B	63	1532
Roeser-Pendleton, Inc.-Humble, Dawson-Conway 1	*	1683
Morris-Buie 25, sec 201	167	1602
Tannehill et al, Mathews 30	35	1119
White & Duncan, Davis 1, sec 221	*	1687
C. E. Wickman et al, Green 3	6	1104
STEPHENS COUNTY—		
Lone Star, Brooks 4	400	3417

*Failures; †Junked; ¶Million cu. ft. gas.

TEXAS PANHANDLE
Completions

Company, Well and Location	Init. Prod. Bbls	Depth
CARSON COUNTY—		
Gulf, Cooper 13	575	3065
GRAY COUNTY—		
Joana Oil Co., C. B. Rendleman 1	¶39.3	2810
Stanolind, R. M. Sackett 1	117	3336
The Texas Co., O. N. Frashier 4	400	3310
HUTCHINSON COUNTY—		
Stansylvania Oil Co., Stansbury 5	306	2998
The Texas Co., R. L. Pond 7	531	3070
MOORE COUNTY—		
Anderson-Kerr Pet. Co., Breyfogle-Gulf 1	¶17.3	3597
Shamrock O&G Co., Ryan-Jones 1	¶112.4	3495
WHEELER COUNTY—		
Smith Bros. Ref. Co.-Hanlon & Buchanan, Sitter 3-B	418	2570

*Failures; †Junked; ¶Million cu. ft. gas.

WEST TEXAS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ECTOR COUNTY (North Cowden Field)—		
Sun Oil Co., Wight 2-B	279	4237
ECTOR COUNTY (Judkins Field)—		
Gulf, University 9-A	380	3700
GLASSCOCK COUNTY—		
Bruce Frazier et al, E. Patterson 1	*	1450
HOWARD COUNTY—		
Sinclair Prairie, Dodge 35	340	2784
Dodge 38	790	2785
Dodge 40	421	2770
JONES COUNTY—		
Ungren & Frazier, Dirsey 5	389	2016
PECOS COUNTY (Torborg Field)—		
H. A. Baker et al, M. A. Smith-Sinco 2	11	460
M. A. Smith-Sinco 3	119	370
Stanolind, Tippett 19-B	107	420
REAGAN COUNTY (Wildcat)—		
F. Oyster, Rhodes & Bahan, M. H. Chase 1	*	3525
UPTON COUNTY (McCamey Field)—		
Cardinal Oil Co., E. W. Sherk 1	600	2195
Cordova Union Oil Corp., Fee 1, sec 34	*	2232
Humble, R. P. Ricker 16	244	2182
Kirk & Anderson, J. F. Lane 2	217	2315
TP Coal & Oil Co., Lane 22-A	655	2103
WARD COUNTY—		
California Co., A. B. Gordon 25	493	2524
J. F. York 20	559	2519
A. R. Eppenauer Drlg. Co., G. S. Combs 4-A	279	2485
TP Coal & Oil Co., H. James 14	1218	2540
S. A. Thompson et al, Johnson-Sun 9-B	1523	2546
Tide Water (Simms), C. D. Mason 3	280	2559
Wahlenmaier Pet. Corp., R. O. Potts 5	510	2364
R. A. Westbrook Oil Corp., Monroe 5	221	2575
WINKER COUNTY (Halley Field)—		
Emperor Oil Co., S. M. Halley 2	404	2900
WINKLER COUNTY (Gulf-O'Brien Field)—		
Hargraves-Hitchcock & Bradley, Sealey-Conoco 2	375	3127
WINKLER COUNTY (Henderson Field)—		
Wahlenmaier Pet. Corp.-Atlantic, Leck 2-C	†	2880
WINKER COUNTY (Sayre Field)—		
Humble, J. F. Howe 7	2049	2986

*Failures; †Junked; ¶Million cu. ft. gas.

Talco Retarded

ACTIVITY AWAITING RULES FOR ITS DEVELOPMENT

WEEKLY STAFF REPORT

Mount Pleasant.—Refusal of the Railroad Commission to proceed with its scheduled program of prescribing well spacing rules and method of prorating the Talco field threatens to retard development of leases held by operating units that are partial to an orderly exploratory campaign. The extension of pipe lines into the area by majors may likewise be deferred until the state body prescribes a permanent proration and drilling policy. Hearing was called by the commission at Austin June 2, then continued indefinitely upon plea entered by Senator Tom DeBerry, spokesman for an unidentified group of land owners. DeBerry stated the field was not sufficiently defined to warrant a hearing, and that landowners were not prepared to introduce technical evidence.

Accepted generally as a major source of low gravity crude production, the Talco field is forging to the front as an active drilling center. There are six flowing wells distributed along a 4½-mile front parallel to the faulted structure, which centers upon the town of Talco and extends into parts of Titus and Franklin Counties. Two new tests were due to drill into the Paluxy, or upper Trinity sand series, late last week, and operations were underway on six additional locations situated within the established producing area. Derricks and rigs are in place on three other locations.

Besides the above field activity, permits have been issued by the commission for the drilling of 133 tests, including 49 listed as being within the townsite of Talco. Permits have been granted to 65 separate groups of independents, or companies, and to three majors. The latter have completed exploration work, or are now drilling on the six permits held by the trio. With few exceptions, the independents have adopted a spacing plan of 150 feet from property line and 300-foot interval between locations. However, closer spacing has been approved by the commission on permit applications involving town lots and small drilling sites held elsewhere along the structure by independents.

Majors hold lease on the bulk of the acreage now rated as potential oil land, but will be greatly outnumbered, as was the case in the East Texas field, when proration hearings are conducted by the commission. Leases and royalties in the Talco area have undergone a tremendous price inflation due to interests that prospered in the East Texas field having competed in bidding for share in the play.

Talco crude is destined to be penalized in price out of proportion to the refining value of the 24.5 gravity sulphur oil until direct pipe line connection is available to refinery markets, as the freight rate to the Texas coast is 37.38 cents per barrel. One major and an independent, each operating a tank car rack and gathering line, have posted 60 cents per barrel for this oil. Skimming plants can not operate at a profit on this crude, as it yields only about 15 percent gasoline, and the other by-products are reported to be inferior in quality. All wells are prorated to 135 barrels daily.

Appearance of salt water in Pleasant Oil, Inc.'s C. M. Carr 1, Talco discovery well, after deepening from 4208 feet to 4265 feet was generally discounted late last week. It was originally completed last March as a pumper, the only non-flowing producer for the field, and production increased to a natural flow of about 300 barrels daily when the hole was deepened to 3895 feet sub sea. The water is generally believed to be coming from the Woodbine horizon, and reaches the Paluxy zone through a defective casing seat. String of 8¼-inch pipe set at 4166 feet was cemented by the well owners, and opinion prevails among operators that the casing seat was disturbed in deepening with cable tools.

Recovery of 13 feet of oil saturated sand in core taken at 4300-4316 feet from Haynes B. Owenby Drilling Company's Easterling-Jones 1, C Lot 6, Block 16, Talco townsite, assures production for lot owners in the south half of the town. Top of the Paluxy was logged at 4264 feet, or 3903 feet sub sea, according to an official of the company. This test marks the approximate deadline for production in the Paluxy zone to the north of the fault plane, as it cut through the fault plane near the 4042-70-foot level. Casing has been cemented above the Paluxy to complete early this week.

Production test of Magnolia Petroleum Company's C. M. Carr 1, west offset to the discovery producer, was slated for the week-end after running liner and tubing with the hole bottomed at 4248 feet, or 3877 feet below sea level. The well flowed from 5 to 7 barrels hourly on preliminary tests. This is the first well to be completed with cable tools. Some difficulty was experienced with cavings in the Paluxy section. The company has arranged to sell its proration allowable to the Independent Crude Oil Trading Company at 60 cents per barrel.

Nemo Oil Company's (R. B. Sanders and Murchison Brothers) Talco Independent School 1, SEc of 5-acre lease adjoining the townsite on the southeast, encountered difficulty in developing a natural flow after logging Paluxy at 4187-4340 feet. It was drilled in with rotary, using mud for circulation, and the drilling fluid apparently sealed off the most productive oil sand. It is considered ideally situated in relationship to the fault plane to make a flowing producer, having cut through the fault plane at 3041 feet. Tide Water Oil Company's C. M. Carr 1, adjoining the discovery lease on the east, is reported to have logged Georgetown lime in drilling at 3550 feet, with an elevation of 358 feet. Lucey Petroleum Company et al's Crawford 2, SWc of 25-acre lease, O. James Survey, Franklin County, entered Georgetown lime at 3471 feet, and was drilling below 3600 feet, according to late reports. Drilling is under way on the following Titus County tests on virtually proved locations: Nivla Oil Corporation's J. N. Kelley 1; W. P. Luse et al's W. T. Sullivan 1; B. C. Morrison et al's Lewis Sanders 1; and Jones and Shelburne's Hazelwood 1.

Tide Water Oil Company and Seaboard Oil Corporation's J. N. Edens 15, second Trinity test for the Cayuga field, was drilling below 900 feet, with 13⅜-inch pipe cemented at 663 feet. It is about 7000 feet southwest of the partnership's Wills-21-A, which produces gas and high gravity distillate from the lower Glen Rose section of the Trinity series at 7210-7360 feet, having plugged back from basal Trinity at 9085 feet to 7416 feet. Edens 15 is down dip on the structure. Owners are relying upon the theory that oil will be found in the Glen Rose at about the same geological level that now yields wet gas and distillate at the apex of the structure.

In northwestern Bowie County, Westmount Oil Company, Dallas, et al's R. N. Phillips 1, J. N. Hancock Survey, logged first Georgetown lime at 1533 feet, with an elevation of 340 feet. Drilling is in progress below 1700 feet. This wildcat, situated about 10 miles north of Oak Grove, is slated to drill to the Paluxy zone.

Recovery of lime formation bearing evidence of nominal oil saturation from the Glen Rose in cores pulled from Pure Oil Company's W. H. Faulkner 1, first deep test for the Mount Enterprise faulted structure in eastern Rusk County, attracted lease and royalty buyers late last week. Operations were halted at 6297 feet in porous gray lime to make a drill stem test. Top of Georgetown lime was logged at 3446 feet, with an elevation of 563 feet. The Mount Enterprise structure extends from eastern Shelby County to the west across the major portion of southern Rusk County. The position of the fault is accurately outlined by Woodbine sand failures and geophysical data. Reports indicate that possibly five geological features prevail at close intervals along a 25-mile front. It is somewhat similar to the Rodessa field, although no oil or gas production has been found at Mount Enterprise in drilling to the Georgetown lime.

Formation tester was used twice Friday

on Pure Oil Company's Mount Enterprize deep wildcat, but the wall packer failed to hold in each instance. Officials of the company assembled at the location announced that further attempts would be made to obtain a decisive test before drilling is resumed.

Dilworth Hager, Dallas, and associates have made location for J. E. Worsham 1, which will test the Trinity zone underlying an unusual geological feature that centers upon the A. O. Wetmore Survey, eastern Hopkins County, and on the same fault trend that is responsible for production at Talco. Location is a short distance northeast of W. B. Hinton et al's Worsham 1, which was abandoned in 1933 at 3580 feet after finding water in the lower Woodbine. Structural conditions in this Hopkins area are somewhat similar to those at Talco.

EAST TEXAS

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Drury-Meeks Corp., G. Cole 3-B (89-ac)	5000	3813
W. H. Gant-Garvin & Wegener, Hale 12 (158.6-ac)	240	3557
Gulf Oil Corp., Jack Wiley 13 (100-ac)	8000	3740
Humble, Kangerga 14-B (124.6-ac)	5000	3666
S. A. Plowman 45-A (228½-ac)	8000	3853
Hunt Prod. Co., R. W. Fair 23-A (136.72-ac)	8200	3631
Alex McCutchin et al, A. S. Jarvis 7-A (85.8-ac)	1500	3727
Pinkston 5 (20-ac)	3000	3701
McMurrey Corp., A. D. Blackwell 10 (84.88-ac)	4000	3679
M. & H. Oil Co., J. B. Wilson 1 (15-ac)	6000	3807
Pet Marketing Corp., Graham-Marathon 1-D (80-ac)	4500	3678
W. C. Powell et al, L. Murphy 1 (9.66-ac)	120	3605
Geo. B. Ray et al, L. J. Pinkston 11 (49-ac)	7100	3632
Sinclair Prairie, W. D. Kinney 71 (579.21-ac)	7000	3643
Sun Oil Co., M. M. Burns 7 (109.98-ac)	*	3764
H. A. Pace 34-B (637.45-ac)	*	3769
Wemack Oil Corp., J. G. Arnold-Pure 5 (97-ac)	360	3675
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W. O. Bryan et al, J. C. Gipson 1-A (2.83-ac)	25	3805
Gulf, G. W. Culver 28 (142.71-ac)	4500	3541
Hamilton & Ellis, Butzman 11 (67-ac)	360	3500
Humble, L. D. Crim 173 (914.51-ac)	7300	3704
S. S. Laird 85-B (568.53-ac)	2400	3632
S. S. Laird 87-B (568.53-ac)	720	3600
Mary Minor 13 (123-ac)	9000	3736
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Southland Drl. Co., J. E. Choice 2 (51.53-ac)	1000	3689
Southport Pet. Co., I&GN Ry. 1, Tr. 4 (3.02-ac)	750	3542
I&GN Ry. 5, Tr. 2 (3.39-ac)	500	3560
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Jim A. Woods et al, C. J. Mackey 4 (60-ac)	1500	3696
C. J. Mackey 7 (60-ac)	800	3730
Ypsalanti Oil Co., L. T. Mackey 3 (20-ac)	500	3670
HARRISON COUNTY—		
Claud Bagley, J. M. Trosper 1, C. Davenport sur	*	1034
VAN ZANDT COUNTY (Van Field)—		
Pure Oil Co., D. R. Howell 6 (60-ac)	9600	2953
F. B. Smith 11 (80-ac)	3000	2888
The Texas Co., J. A. Bracken 5 (44.48-ac)	9000	2928
VAN ZANDT COUNTY—		
A. W. Walker, Jr. et al's H. V. Whitaker 1	*	4727

*Failures; †Junked; ¶Million cu. ft. gas.

52 NEW PRODUCERS

Four failures located on edge of structure

Tyler, Texas.—Averaging eight completions daily the past week, East Texas field added 52 producers and four dry holes, the failures being on leases operated by majors on the north, northwest and west edge of the structure.

Sun Oil Company contributed two of the abandoned tests on its structurally low properties in Smith County. This company's H. A. Pace 34-B, situated on a 637.45-acre lease, Juan Vargas Survey, logged first sand at 3768 feet, or 3329 feet below sea level, and tested water when drilled one foot into the sand. Mattie M. Burns 7, situated on a 109.98-acre lease in the same area, drilled one foot into sand topped at 3763 feet and produced all water when given an eight-hour pumping test.

The Texas Company's H. L. Phillips 7, in the D. B. Choate Survey, a short distance northwest of Gladewater townsite production, failed to produce from sand topped at 3682 feet, or 3316 feet below sea level. The hole was deepened to Georgetown lime section at 3925-3941 feet for geological information before plugging orders were issued. Gulf Oil Corporation's W. A. Ray 15, in the northwest corner of the John Lout Survey and in the extreme north portion of the field in Upshur County, yielded salt water from sand encountered at 3591 feet, or 3330 feet sub-sea, and was abandoned at 3600 feet.

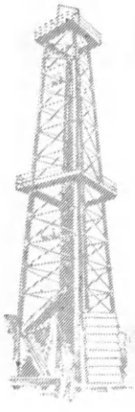
Beall Sneed Oil Company, Dallas, developed oil saturation from Woodbine sand section at 3671-3679 feet in drilling its DeLoach & Bond 1, near NEc of a 750-acre lease, Perry Reese Survey, Cherokee County, but showed salt water when tested through casing. It is about one mile southwest of nearest production in the Joiner area. Reports indicate that an attempt will be made to plug back and test the top section of the sand.

Independents accounted for 36 of the completions reported the past week, while nine majors shared the remaining 20. The former are not carrying on as active a program as formerly along the east edge of the field, as the small wells generally scored on edge leases in Rusk County and southern Gregg County probably will not yield sufficient production to amortize drilling costs. An added hazard is the possibility of the pumpers becoming converted into small gas wells, as this physical change has been experienced by a number of wells since the first of the year.

GILLOCK HEARING

Austin.—A hearing on the Gillock field in Galveston County will be held before the Texas Railroad Commission at Austin on June 15.

Besides a spacing rule, the commission will consider means of reducing gas-oil ratios in the field, which are reported to be excessive.



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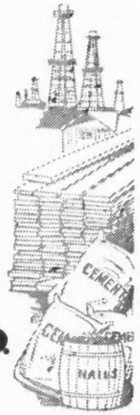

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Talco Fault Zone

POSSIBILITIES OF LARGE AREA ARE CONSIDERED BRIGHT

By GENE R. SMITH, Consulting Petroleum Geologist, Houston, Texas

RECENT showing of oil and gas from the basal Trinity sands in a deep test in the Mexia, Texas, oil field and completion of profitable oil wells in the Talco field in northwestern Titus County from sand of Paluxy or Upper Trinity age, has heightened interest in the Mexia-Talco fault zone. The stratigraphy of the Comanchean (or lower) Cretaceous System is of particular interest. The source of the oil and the nature of the strata which may be encountered below the Trinity is worthy of consideration.

On Map No. 1, the faults shown are those having the best possibilities of production from the Trinity formation. The faulting is shown where the displacement occurs in the Austin chalk. From Caldwell County to eastern Hunt County, most of the known faults have north or northeast closure and are open to the south and southwest. Eastward from Hunt County, the majority of the faults are open on the east or southeast end.

Of the faults shown on Map No. 1, but two are known by the writer to have definite closure. From surface indications, sub-surface mapping and geophysical data, the fault east of Greenville, Hunt County, also known as the Campbell fault and the fault located northeast of Sulphur Springs, Hopkins County, are classified by the writer as being closed on both ends and therefore have the best possibilities of Trinity or lower production.

The Balcones and what the writer terms the Mexia-Talco fault zone are closely associated. The Balcones zone was first named by R. T. Hill in 1889 from a creek in northern Bexar County. The faults in both zones are of the normal or gravity type; the Balcones faults are generally downthrown to the east or southeast and the faults of the Mexia-Talco zone are most frequently downthrown to the north or west, thereby forming a large graben between.

The Balcones zone is traceable from northern Coahulia, Mexico, through Del Rio, Val Verde County, Texas, thence eastward and northeastward through Kinney, Uvalde, Medina, and Bexar Counties to northern McClennan County. The zone is not definitely recognized north of the last named county but traces of its movement are apparent as far north as Dallas and Collin Counties. The heaviest faulting occurs where the zone curves around the Llano Uplift.

The Mexia fault zone was first spoken of by R. T. Hill in 1900 and by Alexander Deussen in 1914 and is traceable from Medina to Morris Counties, Texas.

The cross section Map No. 2 is self explanatory but provides a basis for some very interesting hypotheses. Southward from Southern Oklahoma, the basal Cretaceous sands are split into two parts by an intervening wedge shaped limestone, the Glen Rose. The thin part of this wedge being toward the north, or up dip; the bed thickening to the east and southeast at the approximate rate of 10 feet per mile.

In North Texas the Comanchean Cretaceous is subdivided as follows:

WASHITA	Grayson	Del Rio
	Main Street lime	
	Pawpaw	
	Weno	
	Denton	
	Fort Worth	
	Duck Creek	
	Kiamitia	
FREDERICKSBURG	Edwards	
	Comanche Peak	
	Goodland lime	
	Walnut Clay	

PALUXY
GLEN ROSE
TRAVIS PEAK (basal Trinity)
PALEOZOIC

The source of the oil now being produced from the Comanchean Cretaceous in northwestern Titus County and the heavy shows of oil and gas in Limestone County is without doubt from strata of Paleozoic age, and probably is Pennsylvanian. Considering the huge unconformity existing between the basal Trinity and the underlying Paleozoic rocks the nature of the latter is highly problematical. These data following are definite, however, as to the nature of the strata underlying the Comanchean, in the localities named.

Bell County

Rio Grande Oil Company's Hair 1, 2¼ miles northwest of Belton encountered black shale and gray quartzitic sand beneath the Comanchean.

Bexar County

The United States Government well at Camp Bullis encountered altered shale.

Caldwell County

United North and South Oil Company drilled 1600 feet of vari-colored schist, beneath the Comanchean.

Dallas County

McNeil and Andrews' Seaton 1, 2 miles northeast of Britton, black shale at 2435 feet.

Ellis County

Triangle Corporation's Hale 1, 1 mile south of Avalon, slickensided shale and quartzitic sandstone at 3060 feet.

Falls County

Humble Oil & Refining Company's Purek 1, 5 miles northeast of the southwest county line encountered Phyllite at 3535 feet.

Fannin County

Elkay Oil & Gas Company's Lane 1, 2 miles southwest of Ector, drilled into black shale and sand at 2380 feet.

Lamar County

Bailey Development Company's Ford 1, 9 miles northwest of Paris, struck quartzite at 1880 feet.

McLennan County

Waco Oil & Refining Company's Harrington 1, 4½ miles north of Waco, quartzitic sandstone and black shale at 2600 feet.

Red River County

Concord Oil Company's Dillahunty 1, 6 miles southeast of northwest county line, schistose sandy shale.

Travis County

The Blunn Creek test in the south part of the city of Austin struck indurated black shale and quartzite at 2276.

Williamson County

In the Georgetown City well, shale and schist at 1260 feet.

It is of interest to note that near the town of Joshua, Johnson County, the following strata were penetrated:

Grayson 130 feet.
Main Street 25 feet.
Pawpaw and Weno 50 feet.
Denton 25 feet.
Fort Worth 25 feet.
Duck Creek and Kiamitia 60 feet.
Goodland 110 feet.
Walnut 115 feet.
Paluxy 85 feet.
Glen Rose 365 feet.
Trinity series 305 feet.
Pennsylvanian 681 feet.
Show of gas from 2051 to 2073 feet.

Referring again to Map No. 2, the deep well drilled at Polytechnic, near Fort Worth, Tarrant County, evidently had strong showings of oil, gas and salt water from the Pennsylvanian. The paleontological and lithological notes made by Dr. J. A. Udden suggest that the uppermost part of the Carboniferous logged may be Strawn, or uppermost Pennsylvanian.

To the best of the writer's knowledge, no well east of Dallas County along the Mexia-Talco fault zone has penetrated any formation older than basal Trinity. Any opinion concerning the strata which may be encountered below the Lower Cretaceous in East or Northeast Texas, must be guided to some extent by the following data. It is definitely certain that the oil now being produced from strata of Trinity age is not indigenous to those beds and that the source is from Carboniferous formations below. We must consider here, a very widespread area, including East and Northeast Texas, Southeastern Oklahoma, Southwestern Arkansas and Northwestern Louisiana. No one, of whatever ability, may be certain of the identity of the source beds until drilled.

We know that the Trinity sands underlie most of North Texas and are conformable; they must be considered as a possible oil and gas horizon. However, in the Madill-Dennison area, the very high grade of oil, the absence of organic matter and the distribution of the oil is fairly conclusive that the oil has migrated from the underlying Paleozoics.

Regarding the nature of the Lower Cretaceous of Southeastern Oklahoma and Southwestern Arkansas the writer wishes to quote Hugh D. Miser of the United States Geological Survey:

"The Lower Cretaceous rocks of South-

on Pure Oil Company's Mount Enterprize deep wildcat, but the wall packer failed to hold in each instance. Officials of the company assembled at the location announced that further attempts would be made to obtain a decisive test before drilling is resumed.

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Claud Bagley, J. M. Trosper 1, C. Davenport sur	*	1034
VAN ZANDT COUNTY (Van Field)—		
Pure Oil Co., D. R. Howell 6 (60-ac)	9600	2953
F. B. Smith 11 (80-ac)	3000	2888
The Texas Co., J. A. Bracken 5 (44.48-ac)	9000	2928
VAN ZANDT COUNTY—		
A. W. Walker, Jr. et al's H. V. Whitaker 1	*	4727

*Failures; †Junked; ¶Million cu. ft. gas.

52 NEW PRODUCERS

Four failures located on edge of structure

Tyler, Texas.—Averaging eight completions daily the past week, East Texas field added 52 producers and four dry holes, the failures being on leases operated by majors on the north, northwest and west edge of the structure.

Sun Oil Company contributed two of the abandoned tests on its structurally low properties in Smith County. This company's H. A. Pace 34-B, situated on a 637.45-acre lease, Juan Vargas Survey, logged first sand at 3768 feet, or 3329 feet below sea level, and tested water when drilled one foot into the sand. Mattie M. Burns 7, situated on a 109.98-acre lease in the same area, drilled one foot into sand topped at 3763 feet and produced all water when given an eight-hour pumping test.

The Texas Company's H. L. Phillips 7, in the D. B. Choate Survey, a short distance northwest of Gladewater townsite production, failed to produce from sand topped at 3682 feet, or 3316 feet below sea level. The hole was deepened to Georgetown lime section at 3925-3941 feet for geological information before plugging orders were issued. Gulf Oil Corporation's W. A. Ray 15, in the northwest corner of the John Lout Survey and in the extreme north portion of the field in Upshur County, yielded salt water from sand encountered at 3591 feet, or 3330 feet sub-sea, and was abandoned at 3600 feet.

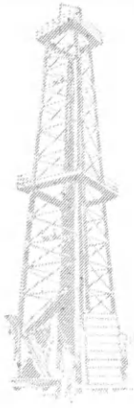
Beall Sneed Oil Company, Dallas, developed oil saturation from Woodbine sand section at 3671-3679 feet in drilling its DeLoach & Bond 1, near NEc of a 750-acre lease, Perry Reese Survey, Cherokee County, but showed salt water when tested through casing. It is about one mile southwest of nearest production in the Joiner area. Reports indicate that an attempt will be made to plug back and test the top section of the sand.

Independents accounted for 36 of the completions reported the past week, while nine majors shared the remaining 20. The former are not carrying on as active a program as formerly along the east edge of the field, as the small wells generally scored on edge leases in Rusk County and southern Gregg County probably will not yield sufficient production to amortize drilling costs. An added hazard is the possibility of the pumpers becoming converted into small gas wells, as this physical change has been experienced by a number of wells since the first of the year.

GILLOCK HEARING

Austin.—A hearing on the Gillock field in Galveston County will be held before the Texas Railroad Commission at Austin on June 15.

Besides a spacing rule, the commission will consider means of reducing gas-oil ratios in the field, which are reported to be excessive.



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Talco Fault Zone

POSSIBILITIES OF LARGE AREA ARE CONSIDERED BRIGHT

By GENE R. SMITH, Consulting Petroleum Geologist, Houston, Texas

RECENT showing of oil and gas from the basal Trinity sands in a deep test in the Mexia, Texas, oil field and completion of profitable oil wells in the Talco field in northwestern Titus County from sand of Paluxy or Upper Trinity age, has heightened interest in the Mexia-Talco fault zone. The stratigraphy of the Comanchean (or lower) Cretaceous System is of particular interest. The source of the oil and the nature of the strata which may be encountered below the Trinity is worthy of consideration.

On Map No. 1, the faults shown are those having the best possibilities of production from the Trinity formation. The faulting is shown where the displacement occurs in the Austin chalk. From Caldwell County to eastern Hunt County, most of the known faults have north or northeast closure and are open to the south and southwest. Eastward from Hunt County, the majority of the faults are open on the east or southeast end.

Of the faults shown on Map No. 1, but two are known by the writer to have definite closure. From surface indications, sub-surface mapping and geophysical data, the fault east of Greenville, Hunt County, also known as the Campbell fault and the fault located northeast of Sulphur Springs, Hopkins County, are classified by the writer as being closed on both ends and therefore have the best possibilities of Trinity or lower production.

The Balcones and what the writer terms the Mexia-Talco fault zone are closely associated. The Balcones zone was first named by R. T. Hill in 1889 from a creek in northern Bexar County. The faults in both zones are of the normal or gravity type; the Balcones faults are generally downthrown to the east or southeast and the faults of the Mexia-Talco zone are most frequently downthrown to the north or west, thereby forming a large graben between.

The Balcones zone is traceable from northern Coahulia, Mexico, through Del Rio, Val Verde County, Texas, thence eastward and northeastward through Kinney, Uvalde, Medina, and Bexar Counties to northern McClennan County. The zone is not definitely recognized north of the last named county but traces of its movement are apparent as far north as Dallas and Collin Counties. The heaviest faulting occurs where the zone curves around the Llano Uplift.

The Mexia fault zone was first spoken of by R. T. Hill in 1900 and by Alexander Deussen in 1914 and is traceable from Medina to Morris Counties, Texas.

The cross section Map No. 2 is self explanatory but provides a basis for some very interesting hypotheses. Southward from Southern Oklahoma, the basal Cretaceous sands are split into two parts by an intervening wedge shaped limestone, the Glen Rose. The thin part of this wedge being toward the north, or up dip; the bed thickening to the east and southeast at the approximate rate of 10 feet per mile.

In North Texas the Comanchean Cretaceous is subdivided as follows:

WASHITA	Grayson	Del Rio
	Main Street lime	
	Pawpaw	
	Weno	
	Denton	
	Fort Worth	
	Duck Creek	
	Kiamitia	
FREDERICKSBURG	Edwards	
	Comanche Peak	
	Goodland lime	
	Walnut Clay	

PALUXY
GLEN ROSE
TRAVIS PEAK (basal Trinity)
PALEOZOIC

The source of the oil now being produced from the Comanchean Cretaceous in northwestern Titus County and the heavy shows of oil and gas in Limestone County is without doubt from strata of Paleozoic age, and probably is Pennsylvanian. Considering the huge unconformity existing between the basal Trinity and the underlying Paleozoic rocks the nature of the latter is highly problematical. These data following are definite, however, as to the nature of the strata underlying the Comanchean, in the localities named.

Bell County

Rio Grande Oil Company's Hair 1, 2¼ miles northwest of Belton encountered black shale and gray quartzitic sand beneath the Comanchean.

Bexar County

The United States Government well at Camp Bullis encountered altered shale.

Caldwell County

United North and South Oil Company drilled 1600 feet of vari-colored schist, beneath the Comanchean.

Dallas County

McNeil and Andrews' Seaton 1, 2 miles northeast of Britton, black shale at 2435 feet.

Ellis County

Triangle Corporation's Hale 1, 1 mile south of Avalon, slickensided shale and quartzitic sandstone at 3060 feet.

Falls County

Humble Oil & Refining Company's Purek 1, 5 miles northeast of the southwest county line encountered Phyllite at 3535 feet.

Fannin County

Elkay Oil & Gas Company's Lane 1, 2 miles southwest of Ector, drilled into black shale and sand at 2380 feet.

Lamar County

Bailey Development Company's Ford 1, 9 miles northwest of Paris, struck quartzite at 1880 feet.

McLennan County

Waco Oil & Refining Company's Harrington 1, 4½ miles north of Waco, quartzitic sandstone and black shale at 2600 feet.

Red River County

Concord Oil Company's Dillahunty 1, 6 miles southeast of northwest county line, schistose sandy shale.

Travis County

The Blunn Creek test in the south part of the city of Austin struck indurated black shale and quartzite at 2276.

Williamson County

In the Georgetown City well, shale and schist at 1260 feet.

It is of interest to note that near the town of Joshua, Johnson County, the following strata were penetrated:

Grayson 130 feet.
Main Street 25 feet.
Pawpaw and Weno 50 feet.
Denton 25 feet.
Fort Worth 25 feet.
Duck Creek and Kiamitia 60 feet.
Goodland 110 feet.
Walnut 115 feet.
Paluxy 85 feet.
Glen Rose 365 feet.
Trinity series 305 feet.
Pennsylvanian 681 feet.
Show of gas from 2051 to 2073 feet.

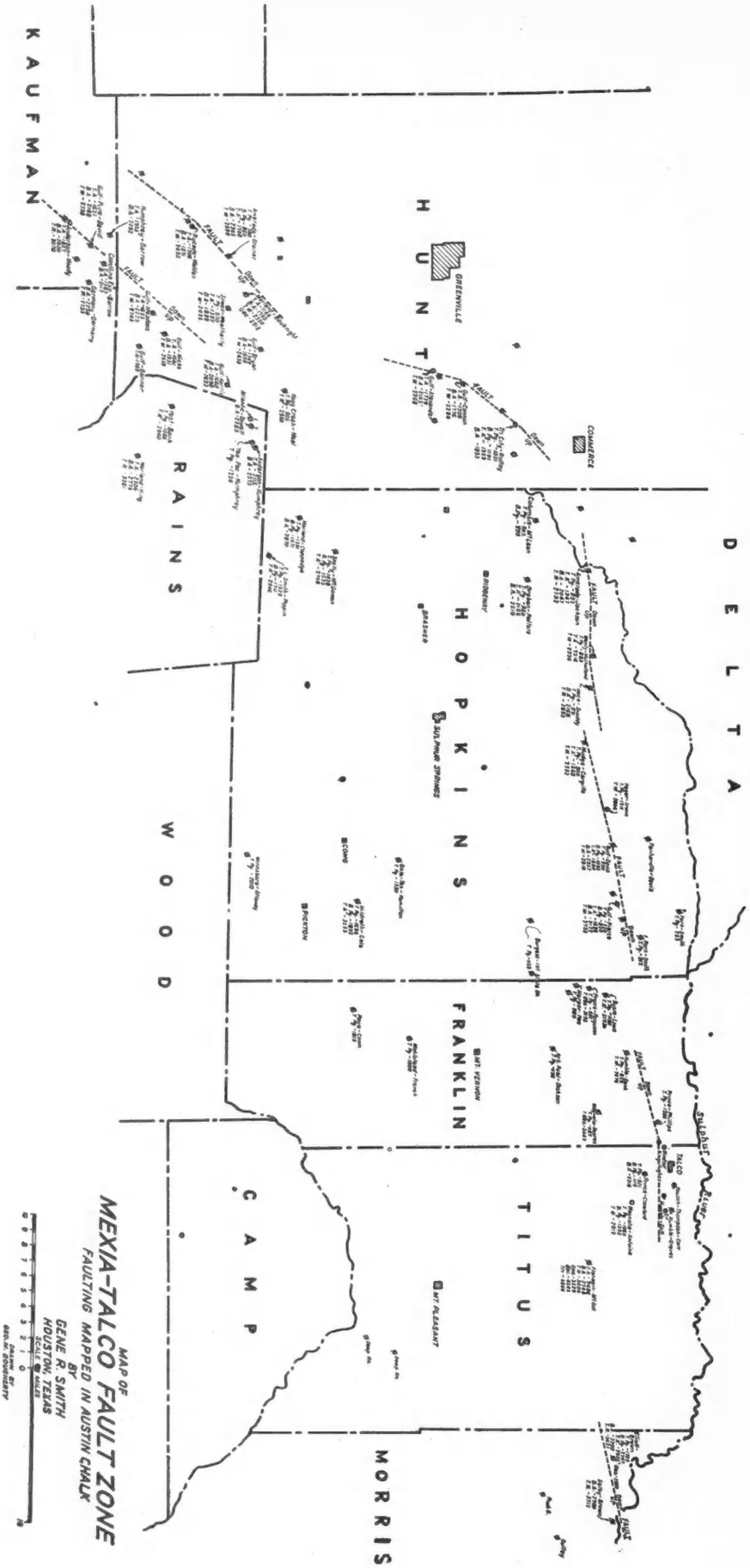
Referring again to Map No. 2, the deep well drilled at Polytechnic, near Fort Worth, Tarrant County, evidently had strong showings of oil, gas and salt water from the Pennsylvanian. The paleontological and lithological notes made by Dr. J. A. Udden suggest that the uppermost part of the Carboniferous logged may be Strawn, or uppermost Pennsylvanian.

To the best of the writer's knowledge, no well east of Dallas County along the Mexia-Talco fault zone has penetrated any formation older than basal Trinity. Any opinion concerning the strata which may be encountered below the Lower Cretaceous in East or Northeast Texas, must be guided to some extent by the following data. It is definitely certain that the oil now being produced from strata of Trinity age is not indigenous to those beds and that the source is from Carboniferous formations below. We must consider here, a very widespread area, including East and Northeast Texas, Southeastern Oklahoma, Southwestern Arkansas and Northwestern Louisiana. No one, of whatever ability, may be certain of the identity of the source beds until drilled.

We know that the Trinity sands underlie most of North Texas and are conformable; they must be considered as a possible oil and gas horizon. However, in the Madill-Dennison area, the very high grade of oil, the absence of organic matter and the distribution of the oil is fairly conclusive that the oil has migrated from the underlying Paleozoics.

Regarding the nature of the Lower Cretaceous of Southeastern Oklahoma and Southwestern Arkansas the writer wishes to quote Hugh D. Miser of the United States Geological Survey:

"The Lower Cretaceous rocks of South-



eastern Oklahoma, and Southwestern Arkansas rest upon rocks of many different ages, ranging from Pre-Cambrian to Permian, but the floor they lie upon is a remarkably uniform plane with minor irregularities in spite of the folds and faults in the Paleozoic rock."

It appears that the floor of the Paleozoic rock was tilted southward and was submerged by the Cretaceous sea. The rate of dip of the Paleozoic beds is from 80 to 120 feet per mile in Southwestern Arkansas, decreasing in Southeastern Oklahoma.

A system of faults extends from Southwestern Arkansas, from the faulted Irma field in southern Nevada County, southwestward across LaFayette and Miller Counties, nearly to the Texas line. The grabens range in width from 2 to 3 miles, and have a total length of nearly 50 miles.

In the southwestern part of the Bethany gas field, Panola County, Texas, Natural Gas Production Company has completed wells, evidently from the Rodessa horizon, for an initial open flow of 10 million cubic feet of gas and a closed pressure of 2200 pounds.

The basal Glen Rose anhydrite reservoirs produce oil and gas at Pine Island and Cotton Valley and gas at Bethany, Sugar Creek and Sligo. The Rodessa field was discovered in August of 1930, by R. W. Norton insofar as gas was concerned and the first oil in July, 1935.

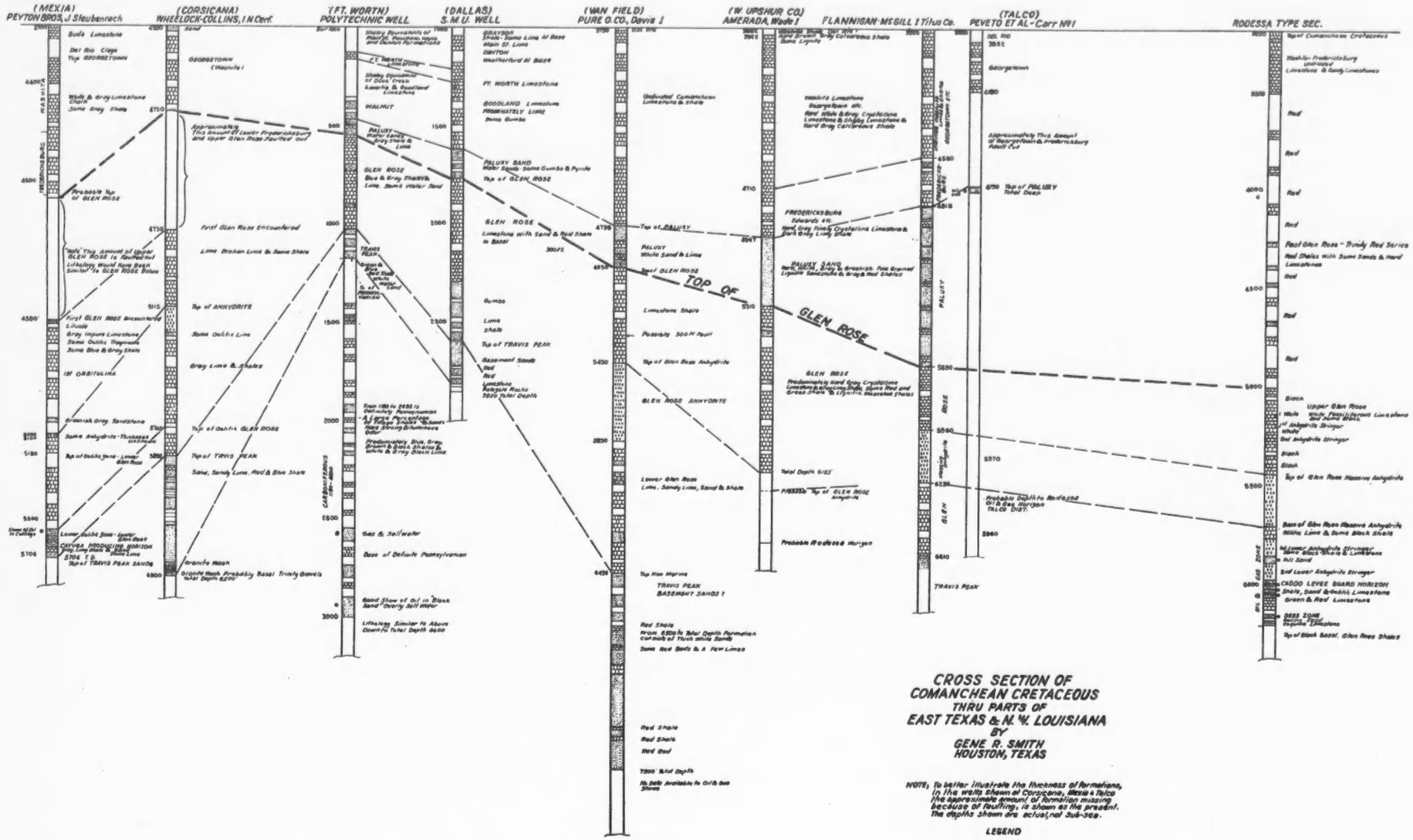
The Rodessa fault, trending north 60° east is traceable from a point north of and near Jefferson, Marion County, Texas, through southeast Cass County, Rodessa, Louisiana, and thence into township 20 south, range 27 west, Miller County, Arkansas, being at least 40 miles in length. The fault is of the gravity type, having approximately 500 feet of throw and closure to the north. This amount of throw is mapped in the Lower Cretaceous.

At least six smaller faults are known to exist on the upthrown side of the main fault; these are trending northeast and southwest at angles closely paralleling the primary displacement. They, too, are downthrown to the south.

To date, wells in the Rodessa field have logged no Woodbine as they pass directly from Brownstown gray and brown shale of Upper Cretaceous age into the limes and sandy limes of the Washita-Fredericksburg, which is Upper Comanchean Cretaceous and has a thickness of about 300 feet.

Beneath these beds is found 1500 feet of red shale with some hard sands and lime which is assigned without further division to the post Glen Rose, Trinity Red series. Beneath this the drill penetrates 435 feet of black shales and white limestone; these strata are Upper Glen Rose and directly overlie the Glen Rose massive anhydrite which is about 250 feet in thickness and contains a small amount of fossiliferous limestone. Directly beneath is found a 500-foot section, Glen Rose in age, within which is found the oil and gas as shown on Map No. 2.

We geologists have been considering the hade, or the angle of inclination of the fault planes along the Balcones and the Mexia-Talco zone as being about 45 degrees. This is true, insofar as the strata of the Gulf or Upper Comanchean is considered. However, as more dense and more resistant strata are found in the limes and marls of the Lower Cretaceous, the angle of the hade will tend to become more nearly vertical. This danger should


(MEXIA)
PEYTON BROS. J. Steubenrach
(CORSICANA)
WHEELOCK-COLLINS, I.N. Cerf.
(FT. WORTH)
POLYTECHNIC WELL
(DALLAS)
S.M.U. WELL
(VAN FIELD)
PURE O. CO., Davis 1
(W. UPSHUR CO)
AMERADA, Wade 1
FLANNIGAN-MEGILL 1 Tilsa Co.
(TALCO)
PEVETO ET AL-Carr No 1
RODESSA TYPE SEC.
TOP OF GLEN ROSE
CROSS SECTION OF
COMANCHEAN CRETACEOUS
THRU PARTS OF
EAST TEXAS & N. W. LOUISIANA
BY
GENE R. SMITH
HOUSTON, TEXAS
NOTE; To better illustrate the thickness of formations, in the wells shown at Corsicana, Mexia & Talco the approximate amount of formation missing because of faulting, is shown at the present. The depths shown are actual, not Sub-sea.
LEGEND
SHALE
LIMESTONE OR CHALK
SAND
ANHYDRITE OR GYPSUM

be watched, particularly at Mexia, Wortham and Powell.

Possibilities of Comanchean Cretaceous of East and Northeast Texas

The Mexia, Wortham and Corsicana areas are quite evidently worthy of further exploration.

The faults at or near Campbell, Hunt County, and northeast of Sulphur Springs, Hopkins County, are most attractive at the present time. The writer bases this optimistic opinion because of the showings of oil and gas in the test drilled in Tarrant County, which might indicate that Pennsylvanian production is not entirely impossible in that area, and that these Carboniferous beds might underlie the area at Campbell.

The writer must again stress that possibilities of production of oil and gas are very greatly better along the Campbell and Sulphur Springs faults, although the Mexia and Corsicana districts merit consideration.

Acknowledgments

The writer wishes to acknowledge with thanks the use of the Bulletins of the University of Texas, the various publications of the United States Geological Survey, the writings of R. T. Hill and Hugh D. Miser, and particularly the various articles published by the American Association of Petroleum Geologists.

TEXAS HEARING

Austin.—The statewide proration hearing before the Texas Railroad Commission will be held at Austin on June 18.

Evidence taken at this hearing will form the basis for orders governing oil and gas allowables for the month of July.

Mirando Active

JACKSON SAND EXTENSIONS CALL FOR MORE DRILLING

WEEKLY STAFF REPORT

Laredo.—Several Jackson sand fields in the Mirando district were widened during the week by oil and gas producers. They pave the way to considerable new development for the immediate future.

The most important development was in Magnolia Petroleum Company's J. B. Peal 1, located more than a mile northeast of Lopez field. The well cored Mirando sand at 2114-19 feet and drilled to 2121 feet. A drill stem test at 2114-21 feet developed 425 feet of pipe line oil in 11 minutes through ⅜-inch choke and casing was set. Plugs were being drilled at the close of the week. Peal 1 is 1670 feet north from the northeast corner of Section 73 and 330 feet from the west line of Section 383 and in the latter section.

Windsor Oil Company's W. R. Peters 3-B, in the southeast portion Section 34 and one mile southwest of North Kohler field, has been completed as a gasser spraying considerable oil from Government Wells sand. It drilled to 2799 feet, plugged back and set casing at 2654 feet, gun-perforating the pipe at 2600-15 feet. The sand was logged at 2578-2615 feet. Late in the week, the oil volume was increasing and it appears possible that this well finally may be converted into a commercial oil well.

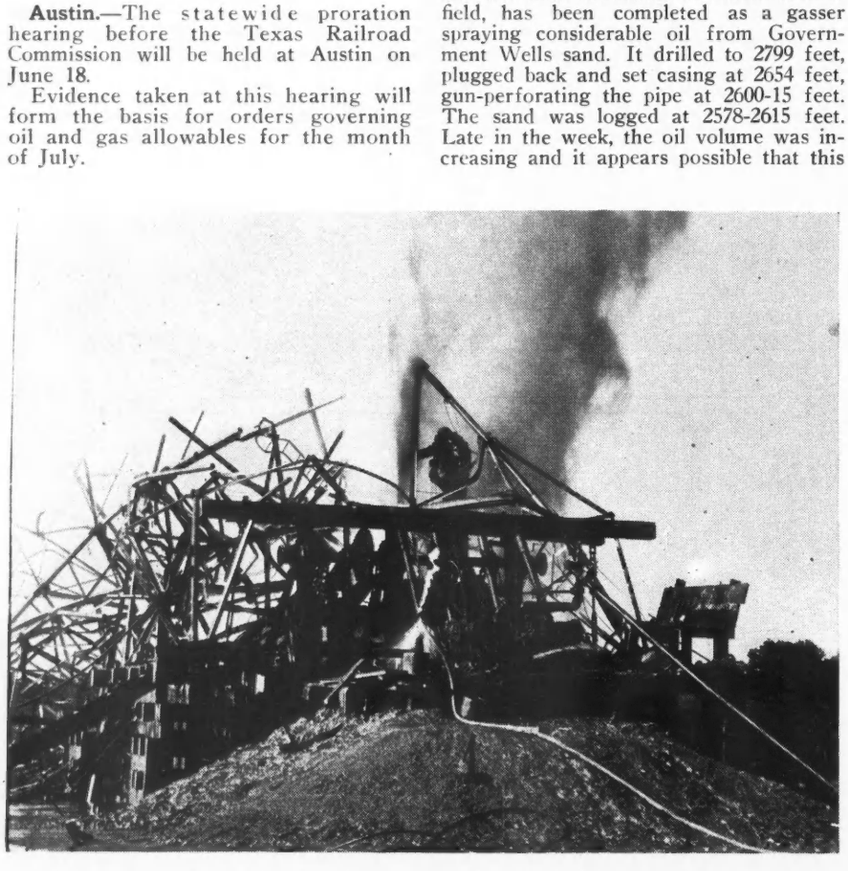
Atlantic Oil Producing Company and Darby Petroleum Corporation finally completed J. F. Welder Heirs 1-G, Section 102, located more than one-half mile southwest of the Seven Sisters field, Duval County, at 2413-30 feet flowing 292.38 barrels of oil per day through ⅜-inch choke and showing pressures of 50 pounds on tubing and 300 pounds on casing.

M. D. Masten et al drilled to 2810 feet in D. Ruiz 1, ran an electric formation tester which gave some promise of production just above 2700 feet in the Government Wells sand. Casing has been set and will be perforated for a series of tests. The well is in Section 128, Duval County, and is one mile west of the westernmost production in the Hoffman area.

Stanolind Oil & Gas Company's Ira Yates Ranch 4, Section 560, one half-mile southwest of the Labbe gas field, Duval County, drilled to 4054 feet without finding commercial oil production, plugged back, set seven-inch casing at 2478 feet and will perforate in the Labbe sand to complete as a gasser. This sand was topped at 2446 feet.

A second producer for Rhodes field of McMullen County was in the making with Humble Oil & Refining Company completing D. W. Rhodes 1, south offset to the discovery well. The test found Cole sand at 1795-1807 feet and set casing at 1780 feet. Although the bottom portion of the sand carried an oil odor, a drill stem test developed 500 pounds gas pressure in 10 minutes through ⅜-inch choke.

No let up in drilling has been witnessed during the last several weeks in the fields of this district, although several leases reached the conclusion of their development campaigns.



O. W. Killam's Betty Ellich 1, wildcat near Driscoll in Nueces County, continues to blow wild late in the week, flowing several hundred barrels of oil and thousands of barrels of salt water per day from 3899 feet.

—McGregor Studio, Corpus Christi, Texas.

SEVERAL STRIKES

Duval County completes 29 producing wells

San Antonio.—A series of Mirando district strikes led a rather active and successful wildcatting week in South Texas, with considerable new acreage being placed within production. The week saw the completion of 57 oil producers out of 66 finished operations. They provided an initial flow of 30,398 barrels per day.

Duval was the leading county from the completion standpoint, 29 wells, all oil producers, being finished for an aggregate initial flow of 12,354 barrels per day. Nueces County added 11 oil producers and

no failures, their initial flow being 10,665 barrels per day. All other areas in the district accounted for eight failures, 17 oil producers and one gasser. The initial output of the 17 wells was 7379 barrels of oil per day.

Further increase in wildcatting throughout the entire South Texas territory is evidenced with many deals being reported, several of which will result in the immediate drilling of a number of deep wells. The Corpus Christi sector remains the hot spot of wildcatting operations, although the Mirando district has been staging a sensational comeback during the past few weeks.

TEST BLOWS OUT

Runs wild second time despite crew's efforts

Corpus Christi.—After running wild for four days, O. W. Killam's Betty Ellich 1, Nueces County wildcat, was brought under control June 4, but broke out again Friday night spouting mud, oil and salt water and blowing as strongly as ever. The oil is flowing into ditches and into the Petronila Creek with the flow into the water being estimated at 10,000 barrels of oil since the well blew out.

Betty Ellich 1, located 4000 feet south of the Clara Driscoll field and in Section 109, blew out the morning of May 31, when attempts were being made to complete through perforations just above its total depth of 3899 feet. Considerable drill stem was blown out of the hole, and the derrick and rig were wrecked. A flow of oil shot 250 feet in the air before breaking. The oil flow continued at a rate of from 2000 to 5000 barrels per day until the 100-foot short string of casing was blown from the hole 15 hours after well came in. The gas volume increased and considerable salt water showed in the fluid, the proportion finally reaching better than 90 percent to 10 percent of oil. This water intrusion possibly is from the hole drilling itself deeper or from other portions of the hole. The production horizon is believed to be about 70 feet deeper structurally than the Santa Clara Oil Company's Clara Driscoll Sevier 1, discovery well and only other producer in the area.

This blowout is the fifth in Nueces County district during the past several months.

M. F. Hurlburt's J. O. Phillip 1, on Flour Bluff, 9½ miles southeast of Corpus Christi in Nueces County, is reaming rathole at 6784 feet to drill ahead. The well topped a Marginulina sand at 6629 feet, and on a drill stem test at 6628-35 feet, using a 1000-foot fresh water cushion, showed 250 pounds pressure in 9 minutes through ¼ and ⅜-inch chokes, a little distillate being found in the bottom of the tester. It is a joint operation in which the Barnsdall Oil Company, Humble Oil & Refining Company and C. F. Hurlburt are interested.

Nueces County generally is one of the most active areas in all of South Texas, with the several fields carrying on heavy offsetting campaigns. The new 5800-foot Saxet area appears to be of large proportions, further increasing the amount of field work. Coastal Oil Company and Keystone Royalties Corporation's Page Brothers 1, about one mile west of the 5800-foot sand area, cored a series of sand and shale lenses from 5840-5928 feet which carried salt water with an odor of oil.

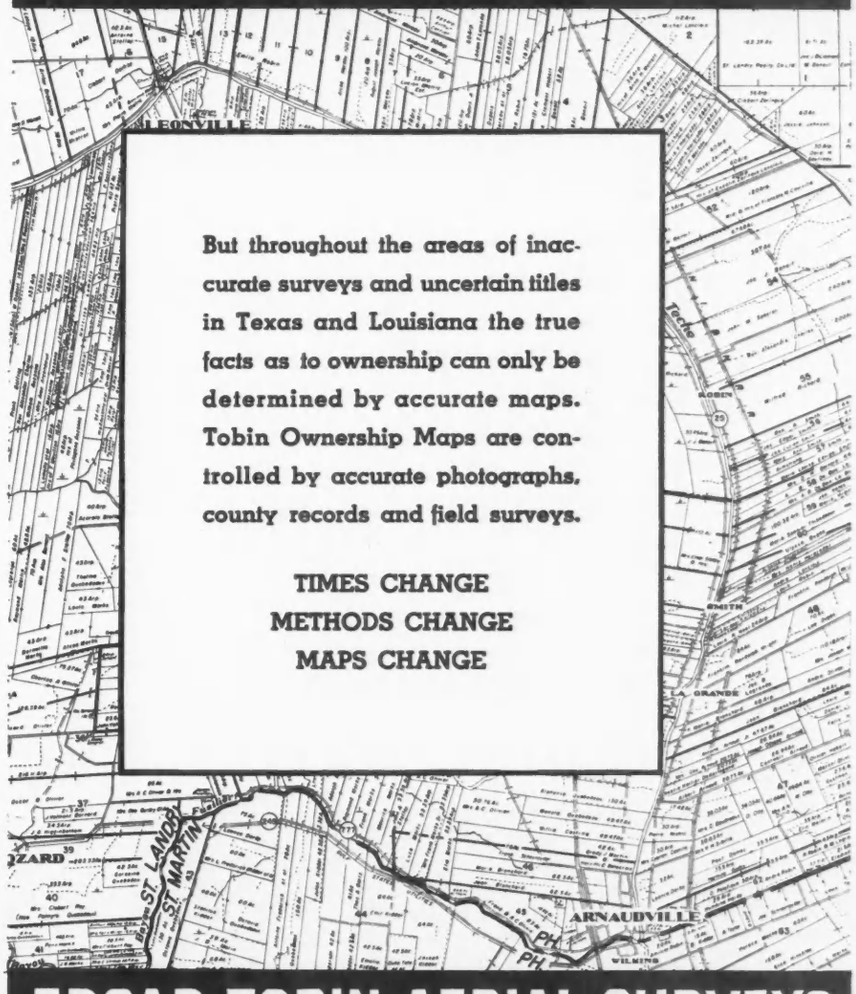
Wildcatting in San Patricio County holds attention with several wells reaching critical stages. Benedum & Trees' E. H. Welder 2, northeast of Sinton, is drilling at 6630 feet, while Welder 3, one location southwest, has set 517 feet of 13-inch casing. Portilla Oil Company's E. H. Welder 1, 1 mile farther southwest, is drilling at 5026 feet. Continuing on this trend, but in Refugio County, several locations are to be announced within the next few days for deep wildcats to be drilled to depths ranging from 6000 to 7000 feet.

Field work through Victoria, San Patricio and Refugio Counties continues unabated with large producers reported in Refugio, Greta, Placedo, Tomoconnor and Plymouth fields during the week.

Plans for immediate development of the new Heyser field in Calhoun County are evident, with Humble Oil & Refining Company and Plymouth Oil Company staking location for E. H. Welder 2, three-quarters of a mile southwest of the discovery well of this field. It is located 466 feet out of the southeast corner of the 2476-acre tract in the Rios Survey. This is the fourth well to be drilled on the block by these operators. The first two were failures.

Late in the week, several wells were

"LAND IS NEVER WITHOUT AN OWNER"



But throughout the areas of inaccurate surveys and uncertain titles in Texas and Louisiana the true facts as to ownership can only be determined by accurate maps. Tobin Ownership Maps are controlled by accurate photographs, county records and field surveys.

TIMES CHANGE
METHODS CHANGE
MAPS CHANGE

EDGAR TOBIN AERIAL SURVEYS

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There can be no finer map than a photograph of the land itself

nearing the expected producing horizon in Bentonville field, Jim Wells County. Stanolind Oil & Gas Company's E. W. Raney 1 was down 4195 feet, while J. E. Saim 1 was drilling at 4365 feet. Texon Royalty Company and Lucey Petroleum Corporation's Leona Dodd 1, northwest offset to the discovery well, was coring at 6050 feet.

SEEKS NEW SAND

Samfordyce extension misses regular horizon

McAllen.—A new producing sand is being sought in the extreme western portion of Samfordyce field, Starr County, by the Sun Oil Company in Chapotela Land Company 3. The well, located 750 feet northwest of production in the field, failed to find production in the regular sand, but did find a series of sands from 3355 to 3380 feet, a drill stem test of the last 10 feet showing 160 feet of salt water with a little oil in 15 minutes. It is now coring below 3500 feet.

Work in the northern portion of the field continues in an effort to establish oil production in the 2900-foot sand. Gas/oil ratios on the discovery well continue to give considerable trouble.

Derrick was being rebuilt late in the week on Quintana Petroleum Corporation's John Engelman 1, wildcat near Edinburg in Hidalgo County. The well drilled to 8904 feet, derrick collapsed, and about 7000 feet of drill stem was stuck in the hole. The well will be carried ahead to below 9000 feet, casing set, and a series of tests made of sands at upper levels.

Gulf States Development Company's John Engelman 3, east of the discovery well of Mestenas field, tested salt water through perforations at 6720-25 feet, and has plugged to perforate at 6688-98 feet, where a second attempt will be made to complete. A previous completion in the latter section developed a large gasser spraying about 30 barrels of high gravity oil per day through ¼-inch choke, the pressure being 675 pounds on tubing.

Union Sulphur Company has two deep wells shut down for orders and a third coring for the deep sand. American et al 9 is coring at 7246 feet. American 7 is shut down at 7608 feet, and American 8 is shut down at 7822 feet.

California Company has reached 7500 feet in Mrs. B. Garcia 1, deep core prospect in the Alta Mesa field of Brooks County, and the well is shut down for orders. It possibly will be carried deeper.

SOUTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BEXAR COUNTY—		
Nick Marosis et al, Teodore O. de Ruiz 1, 1160 ft s of new Laredo Highway, 160 ft e of wl of lse, F. Rolen League and Labor sur. No. 48	*	785
BROOKS COUNTY—		
Nordan, Morris & Jim Nash, Wm. Singer 1, 835 ft sl, 495 ft el of sur 312 (Alta Verde)	65	903
Pedernal Oil Co., Wm. Singer 1, nw¼ of sw¼ sur 436 (Alta Verde)	*	1003
CALHOUN COUNTY—		
Hilton & Meise, J. Brundrett 1, 330 ft nel and nwl of tr 8 in Wm. Little sur	*	192
DUVAL COUNTY—		
Atlantic Oil Prod. Co., J. F. Welder heirs 13-D, sur 113 (Seven Sisters)	655	2489
Atlantic Oil Prod. Co. & Darby Pet. Co., J. F. Welder heirs 1-G, 990 ft nl, 330 ft el of 120-ac tr sur 102 ½ mi sw Seven Sisters field	380	2430
Bridwell Oil Co., M. C. Hubberd 8-B, sur 75, (Loma Novia), pb from 2717 to 2646, sand 2630-45	265	2717
Wm. Hubberd 5-C, sur 75 (Loma Novia)	383	2611
Al Buchanan & Blanco Oil Co., J. F. Welder heirs 12, sur 385 (Seven Sisters)	485	2215
Dulce Oil Co., R. Serna, Jr. et al 3-B, sur 384 (Seven Sisters)	187	2199
Duval Oil Corp., W. K. Hoffman 3, sur 118, (Hoffman)	405	2862
Highland Oil Co., M. C. Hubberd 12, sur 72 (Loma Novia)	340	2755
Wm. Hubberd 12, sur 75 (Loma Novia)	250	2773
Humble O&R Co., M. C. Hubberd 40-B, sur 72 (Loma Novia)	340	2749
M. C. Hubberd 52-B, sur 72, (Loma Novia)	95	2763
M. C. Hubberd 1-C, sur 72 (Loma Novia)	120	2769
T. D. Smith 12, sur 382, (Seven Sisters)	790	2441
L. & P. T. Wright 4, sur 118, (Seven Sisters)	110	2518
Magnolia, S. Benavides 15, blk. 485, Hale Subd., Arispe Gr (Cole)	55	2915
DCRC 3 (2nd hole), sur 95, (Piedre Lumbre)	795	1982
S. E. Harvil 2, sur 64, (Govt. Wells)	530	2320
Navarro Oil Co., J. F. Welder 4, sur 383, (Seven Sisters)	360	2465
Plymouth Oil Co., Sophie Hoffman 1-B, sur 118 (Hoffman)	288	2898
Reliance O & R Corp et al, Drummond 2, sur 308 (Seven Sisters)	965	2519
Santa Clara Oil Co., J. F. Welder heirs 4-B, sur 383 (Seven Sisters)	500	2490
J. F. Welder heirs 1-D, sur 381 (Seven Sisters)	7955	2406
Shell Pet. Corp., M. C. Hubberd 26, sur 77, (Loma Novia)	300	2735
M. C. Hubberd 31, sur 77 (Loma Novia)	195	2765
Standard of Kansas, W. K. Hoffman 4, sur 118 (Hoffman)	600	2913
W. K. Hoffman 7, sur 118 (Hoffman)	255	2862
The Texas Co., Badgley 1, sur 307 (Seven Sisters)	630	2526
DCRC 18 (Piedre Lumbre)	336	1972
Hugo Wendt 40, sur 68 (Loma Novia)	945	2672
GOLIAD COUNTY—		
Diamond Half Oil Co., E. G. Gillette 3-A, J. Gomez sur (N. Pettus)	240	3678
Jane Oil Co., O. A. Mudd 9, B.&B. sur (N. Pettus)	288	3712
GUADALUPE COUNTY—		
W. J. Walton et al, W. F. Krueger 1, H. Brand sur (Zoboroski)	50	2314
HIDALGO COUNTY—		
James H. Anderson, Tr., F. B. Guerra 5, tr 254, porc 40, Reynosa Juris (Samfordyce)	145	2753
Gerald O & G Co., Nelson Mortgage Co. 1, 330 ft sl and el of blk 38, lot A, La Blanca Agricultural subd	*	6237
Navarra Oil Co., F. B. Guerra 3, sh 12, porc 41 (Samfordyce)	300	2884
JIM HOGG COUNTY—		
Knode et al, J. C. Saunders 1, corners blk 18, 19, 30 and 31, sur 117, Reuben Holbein sub, sh 3, Las Animas Gr	*	3750
LIVE OAK COUNTY—		
Dirks Bros, Geo. West Est. 1, 1361 ft sel, 340 ft nel of 80-ac drlg blk, Geo. West Est.	*	4006
McMULLEN COUNTY—		
Reliance O & R Corp., & Santa Clara Oil Co., Shiner Est 1, 330 ft nl, 150 ft el of nw¼ of w½ of sec 80, Shumway subd	*	2540
NUECES COUNTY—		
Cherokee Oil Co., Goecher 1, blk 10, Bancroft Farm lots (Saxet Heights)	670	4072
A. F. Holliday et al, J. Griffith 2, Geo. Frank sur No. 416 (Saxet)	1400	5840
The Maryland Corp. & R. M. Hutchins, Gonzales 1, blk 8, Clarkwood Townsite, sur 404 (Saxet)	1575	4431
Morgan Gulf & Great States, Rand Morgan 1, BS&F sur 405	675	4100
H. M. Reed & S. H. Bartlett, C. Carson 1, Villareal Gr (Saxet Heights) perf 4077½-80	1440	4126
Richardson Pet. Co., Hugo Isensee 1, C. Land sur 404	800	4398
W. A. Richardson et al, Stella Meredith 4, Clarkwood Townsite sur	780	4421
J. B. Salmon, Curtis Clark 1, blk 4, Oaklawn Additon (Saxet Heights)	400	4076
Southern Minerals, Frank Bliss 4, J. W. Stevens sur 406 (Saxet)	900	5838
F. J. Smith 5, blk 14, Sheppard farm lots (Saxet)	1545	4866
Westgate Oil Co., Sturm Estate 6, Villareal Gr (Saxet Heights)	480	4085
REFUGIO COUNTY—		
Quintana Pet. Corp., Tom O'Connor 35-A, blk 26, Hewitt & Daugherty subd of Lambert Lands, Swisher sur (Tom O'Connor)	1650	5901
United Prod. Co., Fannie Heard 12, lot 15, Refugio Townsite sur (Refugio)	240	4922
N. J. Ryalls 7, lot 9, Refugio Townsite (Refugio)	700	4926
SAN PATRICIO COUNTY—		
Plymouth Oil Co., E. H. Welder 43-C, sec 49, Welder Ranch subd (Plymouth)	500	5650
E. H. Welder 46-C, sec 49, Welder Ranch subd (Plymouth)	650	5645
STARR COUNTY—		
E. A. Graham, Santos Villareal 1, por 38, tr 250, Reynosa Juris (Samfordyce)	¶20	3110
Killam & Staggs, S. D. Ricaby 1, 150 ft s highway 4, 200 ft e of wl of porc 83, Camargo Juris	*	1556
Skelly Oil Corp., Seabury et al 8, sh 256, porc 38 (Samfordyce)	630	2826
VICTORIA COUNTY—		
Barnsdall & Costa, J. S. Wheless, Jr. 4, blk 93, Brownson sur, a-382 (Placedo)	560	4771
S. E. Wright 2, J. M. Brownson sur, A 382 (Placedo)	348	4770
J. & C. Drilling Co., J. Janis, blk 8, Rupley sur, A 290 (Placedo)	288	4774
WEBB COUNTY—		
Mills Bennett Prod. Co., Maria L. Lopez 7, sur 112 (Lopez)	575	2235
John J. O'Hern, S. Benavides 1, blk 460, Hale subd, Arispe Gr (Cole)	150	2847

*Failures; †Junked; ¶Million cu. ft. gas.

Two New Fields

OIL IN PAYING QUANTITIES AT GREEN LAKE AND ACE

WEEKLY STAFF REPORT

Houston.—Two new oil fields, a possible third, and field extensions in the more important fields held the interest of the operators in the Texas Sector of the Gulf Coast last week.

Sun Oil Company's Hughes 1, Green Lake Prospect, W. C. M. Baker Survey, Galveston County, opened a new field when it came in flowing 240 barrels of 23 gravity oil through the drill stem from the Plio-Miocene formation at 3620 feet June 4, 1936. The wildcat is producing from 3600 feet above the Discorbis formation.

Not only does Hughes 1 open a new producing area, but it is also a greater distance down dip than any well in the Texas Gulf Coast to produce oil from the basal Pliocene or upper Miocene formation on a non-piercement type dome. It is also the first of this type production to be found along the Gulf of Mexico from a non-piercement type dome. Moreover, it will give the geological fraternity information on the area which was thought heretofore to be barren except at greater depths. Pliocene and Miocene production has been found farther south than the Hughes well, but has been on a piercement type of dome.

Sun Oil Company's Hughes 1 was drilled to 9636 feet in the Marginulina formation and several reports were circulated that the well encountered salt. This could not be confirmed. Finding the lower sections barren, it was plugged back to 3636 feet, where an electrical logging device showed eight ohms resistivity. The casing was perforated from 3610 to 3620 feet with 20 shots. In 20 minutes the well started flowing oil, salt water and sand through a three eighths-inch choke on the bottom of the drill stem. The pressure was 450 pounds. In 14 hours the wildcat flowed 240 barrels of fluid through the testing tool. The fluid tested 65 percent of 23 degree corrected gravity oil, and 35 percent salt water and sand. The pressure was 700 pounds. June 5 the operators were letting the well flow. The operators will not try to shut off the salt water for some time as they want to see how it will perform.

This wildcat's showing was a complete surprise to operators in the Texas Gulf Coast as it was thought it would be abandoned after twisting off three joints of drill pipe at 9636 feet. It was generally believed that production could not be obtained at 3620 feet. It is now believed that several wells drilled in that area some time ago which were abandoned will be worked over.

The Green Lake prospect is located approximately six miles southwest of Hitchcock in Galveston County. Sun Oil Company worked in the area in 1935 with reflection seismograph after Humble Oil & Refining Company worked the area with reflection seismograph in 1928. The latter drilled E. V. Rosenkranz 1, S. White Survey, to 7118 feet in heaving shale and abandoned it in March, 1933. The well had no showings of oil or gas. Sun Oil Company worked the area and took around 12,000 acres in the area in August, 1935. Humble and Shell Petroleum Corporation have considerable acreage in the immediate area.

Sun Oil Company's Hughes 1 is 2000 feet southeast and 1000 feet southwest of the northwest corner of W. C. M. Baker Survey. Elevation is 16 and 7 feet.

Ace Now An Oil Field

Ace field in Polk County, hitherto known strictly as a producer of gas and distillate, June 1 entered the ranks of "regular" oil fields when Dick Schwab's Kirby Lumber Company 1-A, T. A. Sublett Survey, came in flowing 11 barrels per hour of 40.4 gravity oil from Cockfield formation perforated with 10 shots at 4805 to 4815 feet, and extended the field 2250 feet south.

Kirby Lumber Company 1-A set seven-inch casing at the bottom of the hole. The initial flow through a 14/64-inch choke was 7½ percent basic sediment and water. Tubing pressure was 900 pounds; casing pressure was 1300 pounds. On a potential test Kirby Lumber Company 1-A flowed 349 barrels of 40.4 corrected gravity oil in 24 hours through a quarter-inch choke with a tubing pressure of 1225 pounds and a casing pressure of 140 pounds. The previous week a drill stem test from 4805 to 4815 feet showed 400 feet of oil and a 450-pound pressure in nine minutes. The test was made through a quarter-inch choke on top and bottom.

Schwab's Kirby Lumber Company 1-A is 330 feet north and 330 feet west of the southwest corner of the F. Docette 150-acre tract and in a 271-acre tract. The first oil producer is 2250 feet south of Dick Schwab's Kirby-West 2, the discovery well for Ace field, which came in making 3,000,000 cubic feet of gas daily with reported sprays of 42 gravity oil from the Cockfield at 4740 to 4856 feet. The discovery well later started making gas and distillate.

Dick Schwab has skidded derrick to a new location for Kirby Lumber Company 2-A. It is 660 feet north of 1-A and 330 feet from the east line of a 60-acre tract in the T. A. Sublett Survey.

Another important wildcat, Amerada-Stanolind Oil & Gas Company's Dopsalus 1, which indicated a new field several weeks ago in the Fairbanks-Satsuma section of Harris County, at the close of the week was preparing to re-perforate after an initial attempt at 6826 feet failed because most of the cartridges did not explode. A production test will be made without using screen as soon as tubing is run. Several weeks ago Dopsalus 1, located in the W. C. R. R. Survey, showed 420 pounds of pressure and 60 feet of 47 gravity oil when Cockfield formation at 6789 to 6826 feet was subjected to a five-minute test. The present depth of the well resulted from a plugging back job from 7520 feet.

Pickett Ridge field, Wharton County, was defined on the northwest last week when The Texas Company's Merek 2 was completed as a dry hole at 6220 feet after coring salt water sand in the regular producing horizon. The operators encountered the water sand at 5540 to 5543 feet. Merek 2 is northwest of Merek 1, which was completed some time ago to extend the first in a northerly direction. It is in the George Reynold Survey, Abstract 44.

Crown Central Oil Company's J. J. Rod 1, W. C. R. R. Survey, Section 73, Pickett Ridge, was completed at 4608 feet flowing at the rate 212 barrels daily through a quarter-inch choke. The fluid showed 30 percent salt water. Tubing pressure was 160 pounds; casing pressure was 1325 pounds. The first operator other than The Texas Company to enter Pickett Ridge field was Crown Central Oil Company.

Adrian Moore's W. P. Wilbeck 1, J. Telfener Survey, Pickett Ridge area, was shut down waiting on orders at 4703 feet at the end of the week after making a drill stem test from 4694 to 4703 feet. The 15-minute drill stem test through two quarter-inch chokes showed 850 pounds pressure and 10 feet of oily mud. On a drill stem test from 4697 to 4703 feet the test showed one joint of oily mud and a 725-pound pressure. The latter test was made in 10 minutes. The crew drilled into a sand showing oil at 4703 feet after topping a gas sand at 4657 feet.

Two new wells were completed in Pickett Ridge field last week by The Texas Company. Pierce Estate A-19 was finaled at 4709 feet flowing at the rate of six barrels per hour through a 12/64-inch choke. Tubing pressure was 1550 pounds; casing pressure was 1500 pounds. Seven-inch casing was set at 4702 feet. Pierce Estate A-20 came in as a gas well at 4712 feet. The test was making an estimated 1,500,000 cubic feet of gas daily through a quarter-inch choke. Top of the gas sand was found at 4668 feet. Seven-inch casing was cemented at 4712 feet.

The Texas Company's Pierce Estate B-1 indicated an extension to Withers field, Wharton County, last week when a 10-minute drill stem test at 5510 to 5520 feet through two quarter-inch chokes showed a pressure of 700 pounds pressure and two gallons of distillate. On a drill stem test from 5490 to 5508 feet the well showed a pressure of 700 pounds and dry gas in 15 minutes through two quarter-inch chokes. Pierce Estate B-1 was drilled to 6511 feet and was plugged back to 5350 feet. At the end of the week the operators were

running seven-inch casing to make a production test.

Four new producers were completed in Hastings field, Brazoria County, last week. Stanolind Oil & Gas Company completed three of the producers while Humble Oil & Refining Company received credit for the fourth. Three of the producers were outpost tests which extended the field in the north, northeast and southwest respectively.

Stanolind Oil & Gas Company's J. F. Law 2, H. & T. B. Survey, Section 36, southwest flank of the field, was completed flowing 582 barrels daily through a quarter-inch choke. Tubing pressure was 970 pounds; casing pressure was 900 pounds. Law 2 topped the oil sand at 5982 feet and drilled to 6060 feet before setting seven-inch casing at 5980 feet.

Stanolind Oil & Gas Company's Brown A-1, H. & T. B. Survey, north flank of the field, was finaled as a producer at 5991 feet flowing 633 barrels through a quarter-inch choke. Tubing pressure was 940 pounds; casing pressure was 900 pounds. C. D. Brown A-1, which is one of the highest wells in the field, topped the sand at 5735 feet and set seven-inch casing at 5737 feet.

Stanolind Oil & Gas Company's Turner 5, northeast flank test, A. C. H. & B. Survey, No. 1, was completed flowing 545 barrels daily through a quarter-inch choke from 6078 feet. Tubing pressure was 825 pounds; casing pressure was 1200 pounds. Sands showing oil were encountered from 5998 to 6065 feet. Seven-inch casing was cemented at 6005 feet.

Humble Oil & Refining Company's Nelson 3, H. & T. B. Survey, Section 36, was completed at 6065 feet after topping the oil sand at 5951 feet and setting seven-inch casing at 5940 feet. The test came in flowing 29 barrels per hour through a quarter-inch choke.

Humble Oil & Refining Company completed the fourth Marginulina producer in Anahuac field, Chambers County, last week when Broussard-Hebert 5, east flank test, H. & T. C. Survey, Section 59, came in flowing 15 barrels per hour through a quarter-inch choke. Broussard-Hebert 5 was drilled to 7150 feet in salt water sand after topping the water sand at 7120 feet. The hole was plugged back to 6794 feet and redrilled to 6978 feet in oil sand. Top of the sand was found at 6946 feet and seven-inch casing was set at 5953 feet. Two and half-inch tubing was hung at 6810 feet. Broussard-Hebert 5 is producing from less depth than any well in the field.

Humble Oil & Refining Company's Clark 13, H. & T. C. Survey, Section 57, was completed at the end of the week for a commercial producer. The well came in flowing 24 barrels per hour through a quarter-inch choke from 7100 feet. Tubing pressure was 800 pounds. Top of the oil sand was found at 7085 feet and seven-inch casing was cemented at 7084 feet.

Humble Oil & Refining Company's Middleton 18, H. & T. C. Survey, Section 62, southeast flank test, has evidently defined the field in the southeast direction due to the salt water showing at 7177 to 7788 feet. At the end of the week the crew was drilling ahead in shale below 7382 feet.

Pure Oil Company abandoned Paige 1 on the Blue Basin prospect of Wharton County during the past week after it failed to make a gas well at 7670 feet. Six and five eighths-inch casing was perforated from 7680 to 7677 feet. On a 30 minute drill stem test the wildcat showed 20 fourbles of mud cut with oil. Paige 1 originally was drilled to 9200 feet in heaving shale. The company, however, has made locations for two new wildcats on the prospect. A. P. Bordenetal 1 is 2150 feet northwest and 466 feet southwest from the east corner of W. H. Leckie Survey, Section 25, abstract 925, or 4750 feet southeast of Paige 1. Sam G. Shult 1 is 1350 feet north and 466 feet east from the southwest corner of a 248-acre tract in the L. P. Ogden Survey, Section 108, abstract 537. It is 8100 feet west and south of Paige 1.

Stanolind Oil & Gas Company completed State 2, Turtle Bay field, Chambers County last week for eight barrels per hour. The well was making 40 percent salt water through a three eighths-inch choke. The well was drilled to 6617 feet after topping the oil sand at 6612 feet. Seven-inch casing was cemented at 6608 feet. The well showed no pressure. State 2 is in the S. Burney Survey.

Tide Water Oil Company abandoned Corbitt 1, Splendora area, J. J. Blackmon Survey, Montgomery County, during the past week after coring salt water in the Cockfield formation at 6418 feet. Salt water sand also was cored from 6330 to 6349 feet.

Van Vleck field, Matagorda County,

TEXAS GULF COAST
Completions

Company, Well and Location	Init. Prod. Bbls	Depth
AMELIA—		
Humble, Pinchback 1	720	6772
ANAHUAC—		
Humble, Clark 13	576	7100
Broussard Hebert 5	360	6978
BLUE RIDGE—		
Alamo Drilling Co., Blakeley 1	380	4108
CLAY CREEK—		
Sun, Meyer 1	77	1396
Witt 1	115	1213
CONROE—		
Humble	1224	5006
FANNETT—		
Gulf, Thomas 18	75	5557
HANKAMER—		
Gulf, Crowe & Jacobs 6	80	3950
HASTINGS—		
Humble, Nelson 3	796	6050
Stanolind, Brown A-1	633	5991
J. F. Law 2	582	6060
Turner 5	545	6078
HIGH ISLAND—		
Stanolind, B. & O. 5	112	5768
HULL—		
Gulf, Phoenix 112	500	3615
Republic Prod. Co., Dolbear 159	150	2262
LOUISE—		
Pure, Cochran 1	95	5160
MANVEL—		
Texas Co., Belcher B-23	*	5396
Smith 2	¶1½	4060
MARKHAM—		
Hamil & Hamil, Hudson 4 (wo)	150	4385
PICKETT RIDGE—		
Crown Central, J. J. Rod 1	212	4608
Texas Co., Merek 2	*	6220
Pierce Estate A-19	144	4709
Pierce Estate A-20	¶1	4712
RACCOON BEND—		
Humble, McCasland 8-X	1052	4110
Woodley 4-X	264	4170
SARATOGA—		
John Deering, Teele Estate 1	*	5909
TOMBALL—		
Humble, Holderreith 5	1008	5582
J. Tallman 1-B	120	5559
TURTLE BAY—		
Stanolind, State 2	192	6617
VAN VLECK—		
Skelly Oil Co., Ridgeley 1	590	7502
HARDIN COUNTY—		
David B. McDaniels, Nona Mills 1, Grisby prospect, E. Emanuel sur.	*	8098
HARRIS COUNTY—		
Bunte et al, Lobit 1, Cedar Bayou prospect, B. Barrow sur	*	....
MATAGORDA COUNTY—		
Helmerick & Payne, Hawkins 1, Sheppards Mott, D. A. McCarthy sur	*	7816
MONTGOMERY COUNTY—		
Tide Water, Corbitt 1, Splendora, J. J. Blackmon sur	*	6418
POLK COUNTY—		
Dick Schwab, Kirby Lbr. Co. 1-A, Ace area, T. A. Sublet sur.	349	4815
WHARTON COUNTY—		
Pure Oil Co., E. Paige 1, Blue Basin prospect, E. Pirie sur	*	9200

*Failures; †Junked; ¶Million cu. ft. gas.

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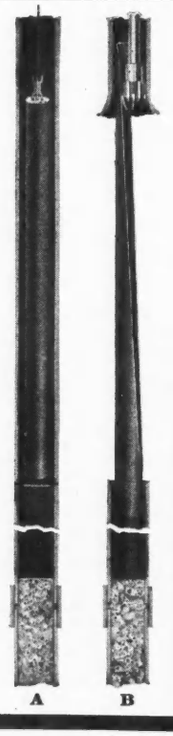


A—Shot going in hole to point near cut.

B—Ready to Sidetrack following the shot.

A B

was extended 1000 feet west during the past week when Skelly Oil Company completed Rudgely 1, M. Cummings Survey, for 590 barrels daily through a quarter-inch choke. The hole was drilled to 7502 feet and seven-inch casing was cemented at bottom. The casing was perforated with 58 shots from 7480 to 7499 feet. The tubing and casing pressure were 1275 pounds each.

David B. McDaniel's Nona Mills 1, Grisby prospect, E. Emanuel Survey, Hardin County, was abandoned at 8098 feet in the Yegua formation after testing salt water. Top of the salt water sand was found at 8088 feet.

Humble Oil & Refining Company recompleted Pinchback 1, Amelia field, Jefferson County, during the past week at 6772 feet for 30 barrels of 29 gravity oil per hour through a quarter-inch choke. Tubing pressure was 1025 pounds; casing pressure was 1100 pounds. The well was originally completed at 6768 feet but due to the high gas/oil ratio it was killed and drilled deeper. Pinchback 1 is 1155 feet west of the discovery well, C. Williams Survey. The company made location for Quinn 3. It is 1263 feet east of the west line and 1323 feet south of the north line of C. Williams Survey.

L. M. Gay et al have made location for a wildcat well in Walker County. Stubblefield 1 is 1000 feet south of the north line and 330 feet west of the east line of a 70-acre tract, or 8750 feet southwest along the southeast line of G. Badilla Survey from the northeast corner and thence 130 feet northwest at right angles from southeast line of G. Badilla Survey. It is approximately four miles west of Trinity.

In Colorado County, Coyle-Concord-Sterling have made location for M. C. South 1, Garwood area, a wildcat to be drilled north of the same operator's Powell 2-B, which showed oil some time ago. It is 466 feet each way out of the NEc of SW¼ of Section 41 of the I.&G.N. Survey.

394 TEXAS STARTS

Austin.—The Texas Railroad Commission approved last week permits for drilling 394 wells in Texas, 76 more than were allowed the week before.

Approval of permits for 142 wells in East Texas was announced, which included 71 in Rusk County, 47 in Gregg County, 16 in Upshur County, seven in Smith County, and one in Cherokee County.

Gulf Coast operators reported 78 new locations, with 45 in Nueces County. There were 43 permits from Southwest Texas, with 16 in Duval County.

North Texas listed 31 locations with 11 in Archer County and 10 in Young County, and there were 21 permits for West Central Texas. East Central Texas reported 18 new locations.

West Texas listed 48 permits with 16 in Ward County and 13 in Winkler County. There were 12 locations from the Panhandle.

More than one-fourth of all seagoing vessels of 1000 tons, or over, flying the American flag, are oil tankships.

New Salt Dome

CONVENT PROSPECT TEST IN SALT AT 7522 FEET

Lake Charles.—A new salt dome was discovered in the Louisiana Gulf Coast last week when Shell Petroleum Corporation's Colonial Sugar 1, Convent prospect, Section 5-12s-5e, St. James Parish, drilled into salt at 7492 feet. At the end of the week the operators were running geophones into the hole at 7522 feet.

The establishment of the salt dome indicates that the Convent prospect may be converted into an oil field. This is the first salt dome discovered in the northeast of the Atchafalaya flood basin by the operators since the so-called "trend" play started some time ago. Shell Petroleum Corporation leased over 700,000 acres in that area.

Colonial Sugar 1 has shown signs of becoming a commercial producer by encountering a number of showings of oil. At 2747 feet a sand contained a slight odor of oil. The top of the sand was found at 2708 feet. On a 10-minute drill stem test the wildcat showed a small amount of gas and a trace of oil. A faint cut of oil was noticed in cores from 3569 to 3573 feet and from 3619 to 3621 feet. A drill stem test was made of sands 4527 to 4534 feet, which showed mud, salt water and an odor of oil. A drill stem test was attempted from 6370 to 6385 feet which showed oil, but the testing tool became stuck. After overcoming the trouble, a test was made from 6355 to 6383 feet, but after setting the testing tool it slipped and the operators recovered only mud, salt water and fluid. A sand with oil was cored from 6554 to 6555 feet, but a drill stem test showed only salt water. From 6803 to 6829 feet a drill stem test was made and a pressure of 10 pounds was shown with salt water and a scum of oil. A sandy shale was cored from 7072 to 7074 feet that contained a slight evidence of oil. The hole was then drilled down to the salt formation.

Shell Petroleum Corporation probably will drill Colonial Sugar 1 deeper into the salt formation for geological information, and then abandoned. It is reported the operators are making a new location in the area on the flank of the dome.

Colonial Sugar 1 is 963 feet north and 500 feet west of the southeast corner of Section 5-12s-5e, St. James Parish.

Superior Oil Producing Company completed Bradley 3, Bayou Mallet field, Acadia Parish, during the week for 140 barrels of 27.5 gravity oil daily through an 8/64-inch choke. This was the third commercial producer for the operators in the field, and also extended the field slightly south. It was drilled to 6395 feet in oil sand. Seven-inch casing was cemented at bottom and was perforated with 17 holes from 6392 to 6395 feet. The well came in flowing 140 barrels, with a large amount of water. Tubing pressure was 540 pounds; casing pressure was 750 pounds. Bradley 3 is 1380 feet south and 348 feet west of Bradley 1, or 3967 feet south and 2118 feet west of the southeast corner of Section 47, being in Section 52-7s-1e, Acadia Parish.

The west side of the Tepetate field, Acadia Parish, was defined last week when General Crude Oil Company abandoned Vincient 1 at 9181 feet in the Vicksburg formation. The well was reported at one time to be running over 100 feet higher than wells drilled in the field, but it failed to pick up the main producing horizon which produces oil at Tepetate.

Continental Oil Company was preparing to complete Welsh 2, Section 28-7s-2w, east offset to O. Ordain 1, at the end of the week. Oil sand was cored from 8301 to 8316 feet after topping the gas sand at 8264 feet. Five-and-three-quarter-inch casing was set at the bottom. The casing will be perforated and a production test made.

The Texas Company's Futral 1, Section 20-6s-5e, on the south side of the Port Barre field, St. Landry Parish, which blew out previously from the new flank sand, was fishing for a stuck drill stem at the end of the week. The well had a sand showing oil from 5836 to 5842 feet. Emerson Oil Company's Sebille 4 was completed at 3443 feet last week, flowing at the rate of 200 barrels per day, making 35 percent water. Sand showing oil was found from 3414 to 3443. The oil tested 20.9 gravity. Pan-American Production Company made location for Haas-Hirsch 2 last week on the west flank of Port Barre field. It is 300 feet south of the discovery well for the flank production and 750 feet from the north line and 1118 feet in the northerly direction from the northeast corner of tract in Section 4-6s-5e.

Harry Fotiade's Gulf Land Fee 1, Section 25-12s-7e, New Iberia field, Iberia Parish, was preparing to take another core from 3628 feet at the end of the week before making a production test. The test was spudded May 22, 1936, and was drilled to 3628 feet in oil sand after topping the pay sand at 3574 feet. A sand cored

SOUTH LOUISIANA
Completions

Company, Well and Location	Init. Prod. Bbls	Depth
BAYOU MALLET—		
Superior, Bradley 3	140	6395
EAST HACKBERRY—		
Stanolind, Gulf Land B-21	312	6151
FOUR ISLAND—		
Texas Co., State Four Isle 5	*	6602
ENGLISH BAYOU—		
Fohs Oil Co., Powers 2	1008	7070
GILLIS—		
Union Sulphur, Cole 1	¶2	5283
PORT BARRE—		
Emerson Oil Co., Sebille 4	150	3443
ST. MARTINVILLE—		
Tide Water, Smede 2	*	8739
TEPETATE—		
General Crude, Vincient 1	*	9181

*Failures; †Junked; ¶Million cu. ft. gas.

from 3574 to 3579 feet showed 24 ohms resistivity and 82 millivolts porosity. A 10-minute drill stem test was made through a ¼-inch choke on top and bottom and showed 5 joints of saturated oil sand and a half barrel of oil. The well had a pressure of 15 pounds.

A new producing horizon was established in the Leeville field during the past week when Delta Drilling Company's Constantine 1, Section 26-21s-22e, Lafourche Parish, made a drill stem test from 5025 to 5043 feet and showed oil. The test was made in 9 minutes with a 50-pound pressure. Seven-inch casing was set at 5008 feet.

Fohs Oil Company was preparing to complete Castle 11, on the southeast flank of English Bayou field, Calcasieu Parish, at the end of the week. Castle 11 topped the oil sand at 7062 feet and drilled to 7068 feet before setting 7-inch casing. The well had shows of oil from 6948 to 6970 feet and from 6974 to 7023 feet. Castle 11 will extend the field over 700 feet southeast when completed. It is in Section 13-9s-8w.

Fohs Oil Company completed A. M. Powers 2, English Bayou field, Calcasieu Parish, during the past week for 42 barrels per hour from the Marginulina formation at 7070 feet. The test came in flowing through a quarter-inch choke with a tubing pressure of 790 pounds and a casing pressure of 1250 pounds. The oil tested 42.3 gravity. Powers 2 was drilled to 7070 feet in oil sand with the top of the sand showing oil found at 7063 feet. Seven-inch casing was cemented on bottom and was perforated with 10 holes from 7061 to 7070 feet. Powers 2 is 275 feet west of the SEc NE SW 14-9s-8w.

Fohs Oil Company has made location for H. Powers 2. It is 150 feet southwest of the NEc SE SE 14-9s-8w.

Union Sulphur Company's Cole 1, Section 12-9s-8w, in the graben between the English Bayou and Gillis field, Calcasieu Parish, has been completed for a dry gasser at 5283 feet. Five-inch casing was set at 5279 feet and screen was set. Cole 1 came in for an estimated 2,000,000 cubic feet of gas daily through a ¼-inch choke with a tubing pressure of 1900 pounds.

The Texas Company's Nickerson Fee 9, Section 12-9s-8w, on the northeast side of the field, was waiting on cement at the end of the week at 6752 feet after drilling oil sand from 6744 to 6748 feet.

Union Sulphur Company made location for Barbee 7. It is 273 feet north and 534 feet west of Barbee 4. The foot measurements are 1267 feet north and 864 feet west of the SEc NE 11-9s-8w.

Humble Oil & Refining Company's Community 12, Section 30-10s-2e, Darrow Dome, Ascension Parish, was completed at the end of the week, making 394 barrels daily from 5838 feet. The well encountered oil sand at 5789 feet, and two drill stem tests were made that showed oil and gas. Seven-inch casing was set at 5806 feet. The well came in flowing 38.8 gravity oil through a ¼-inch choke with a tubing pressure of 625 pounds and casing pressure of 1175 pounds.

Shell Petroleum Corporation's Lacassine 1, Section 20-11s-5w, Jefferson Davis Parish, was down to 9824 feet in shale at the end of the week, having considerable trouble with gas.

Wildcats Showing

RODESSA PASSES 200 MARK IN PRODUCERS

NORTH LOUISIANA

WEEKLY STAFF REPORT

Shreveport.—The number of producing oil wells in the Rodessa field passed the 200 mark last week when 12 new producers were completed bringing the total of completed and guaged wells in that district to 203. The Texas part of the field has 15 wells completed and gauged. Ten new locations were announced in that field, including two in Texas.

After showing 30 feet of oil in 15 minutes when formation tester was run, W. F. Bridwell and associates last week cemented 9⅝-inch casing at 2380 feet in Clapp 1, F. G. Baker Survey, Harrison County, Texas, just across the Louisiana line opposite Caddo Parish. Total depth is 2406 feet; elevation is 285 feet. The oil showing is either Tokio or contact of upper and lower Cretaceous, probably the former. The test was planned originally for the Glen Rose oolitic lime which produces oil and gas in four horizons at Rodessa. The test is on an 11,000-acre block.

This location is 4 miles northwest of Pyramid Oil & Gas Company's Wheeler A-1, Section 16-18n-16w, Caddo Parish, a Glen Rose test in the shallow Blanchard gas field, that tested salt water last week at 4850 feet after being plugged back from 5210 feet; elevation is 250 feet.

This latter test which logged base of massive anhydrite at 4704 feet logged 32 feet of porous sand corresponding to the Hill at Rodessa from 4817-39 feet. Two tests were made, both showing salt water. After the first test plug was found lower than at first thought and the hole was recemented but the second test like the first showed water.

With two tests already drilling for oil on the southwest flank of the Sligo gas field, Bossier Parish, Triangle Drilling Company is rigging H. L. Skannal 2, SE 23-17n-12w. United Gas Public Service Company and Producers Oil & Gas Company are each drilling an oil test on Skannal land in Section 22-17n-12w.

Producers Oil & Gas Company's Pettit 1, Section 7-17n-11w, completed as a gas-distillate well at 5199 feet to open a new possible producing horizon in the Glen Rose, last week was making four barrels of distillate per hour per million cubic feet as the wet gas was being run from separator for approximately five million feet of gas daily to be used in drilling operations.

W. K. Henderson et al's Fee 1, Section 5-19n-15w, Caddo Parish, wildcat 10 miles north of Shreveport, cored sand with a reported oil showing at 2325-31 feet Friday afternoon and was arranging to cut another core. The formation is probably Ozan.

J. P. Evans' Chrichton 1, NE SE 35-18n-9w, Webster Parish, after being opened for 30 hours late last week for a distillate production test, later was producing through ⅛-inch tubing choke and at that time was making 9 barrels of distillate per hour along with a high yield of gas. A definite gauge has not been secured due to the high volume of the well which is estimated at 70 to 80 million cubic feet daily. Total depth is 5589 feet in the Gloyd horizon of the Glen Rose. The well showed for 70 million feet through 2½-inch tubing wide open with casing pressure 1500 pounds. The distillate is of 56 to 57.4 gravity. An electrical tester showed 43 ohms of resistivity and 80 milligrams of porosity of the last 35 feet of formation in the hole.

Two new wildcat locations were made

ROTARIES ORDERED

Dallas.—Magnolia Petroleum Company has placed orders for five heavy duty steam driven rotary rigs, and reports indicate that more rigs will be purchased shortly. In connection with the company's pending purchase of the Rodessa field properties of R. W. Norton, a minimum of 10 rotaries are scheduled to be used in catching up with offsets when the deal is consummated.

NORTH LOUISIANA Completions

Company, Well and Location	Init. Prod. Bbls	Depth
CADDO PARISH (Rodessa)—		
Ark. La. Gas Co., Rodessa 16, 22-23n-16w	4000	6012
Phillips Pet. Co., Adams 1, 17-23n-15w	2000	6055
Standard, Caldwell 4, 12-23n-16w	1200	6034
United Gas, Brewer 3, 21-23n-16w	4000	5977
Thomas 3, 23-23n-16w	1200	6016
CASS COUNTY (Texas)—		
McIlvain & Beckett, Maxie 1, Jno. Collum sur	4000	6008
R. W. Norton (Magnolia), Haywood 2, Priscilla Evans sur	4000	6049
Texas Company, Hall 1, Jas. Young sur	4000	6105
United, Fields 1, Jno. Collum sur	4000	6034
Fields 2, Jno. Collum sur	3500	6048
Fields 3, Jno. Collum sur	2000	6052
Stewart Unit 1, Jno. Collum sur	4000	6010
MOREHOUSE PARISH (Monroe)—		
Farrell & Co., State of La. 18, 9-21n-4e	¶5	2135
State of La. 19, 4-21-4e	¶2½	2135
United Gas, Crossett Lbr. Co. 37, 15-21n-4e	¶7½	2196
Tensas Delta 21, 10-21n-4e	¶6	2206
SABINE PARISH (Converse)—		
Lee Whitehurst et al, Latham 2, 19-9n-13w	55	2128
WEBSTER PARISH—		
J. P. Evans et al, Crichton 1, 35-18n-9w	¶70	5587

*Failures; †Junked; ¶Million cu. ft. gas.

last week in North Louisiana. J. B. Hutchinson and associates made location in Section 28-16n-13w, for Colquitt 1, a 2600-foot test, just south of Shreveport on a wildcat block.

In Natchitoches Parish, B. C. Morrison has derrick up for T. W. Moffet 1, SEc 19-10n-10w, for a proposed 5000-foot operation, on a geophysical high. It is on a 4000-acre block. No nearby test has gone below 3000 feet. This is near the south edge of the Sabine Uplift.

W. F. Hyde of Shreveport has taken over a 4000-acre block in DeSoto Parish centering around SE NW 36-11n-11w, on which Ramsey-DeSoto Oil Company over a year ago spudded J. W. Ramsey 1 in that quarter to a depth of 210 feet and shut down.

LOUISIANA PERMITS

Shreveport. — Twenty-two drilling permits were issued last week by the minerals division, Louisiana Conservation Commission. Fifteen of these permits were for North Louisiana, divided among the following parishes: Caddo, 10, including 9 for Rodessa; Morehouse, 2; Red River, 1; and Union, 2. The 7 in South Louisiana were divided among the following parishes: Allen, 1; Calcasieu, 1; Iberia, 4; and Jefferson Davis, 1.

Shreveport. — Sidney L. Herold of Shreveport last week issued a formal and emphatic denial to a report that Gulf Oil Corporation paid Thigpen & Herold $85,000 cash for a 2600-acre tract centering in Section 10-17n-15w, Caddo Parish.

Texas Side Active

EXTENSION TEST MAKES 70 BARRELS PER HOUR

Shreveport.—A connecting link between the northwest part of the Cass County, Texas, producing part of the Rodessa field and American-Liberty Oil Company's Rambo 1, J. H. Rives Survey, was provided last week when The Texas Company's A. S. Hall 1, James Young Survey, a mile southwest of production and 3 miles northeast of Rambo 1, was completed at 6105 feet. The well made 70 barrels of oil per hour through 1-inch casing choke. Top of the Dees formation was logged at 6040 feet and the Young horizon from 6073 to 6103 feet. The well on a 24-hour gauge on 1-inch choke made 1680 barrels.

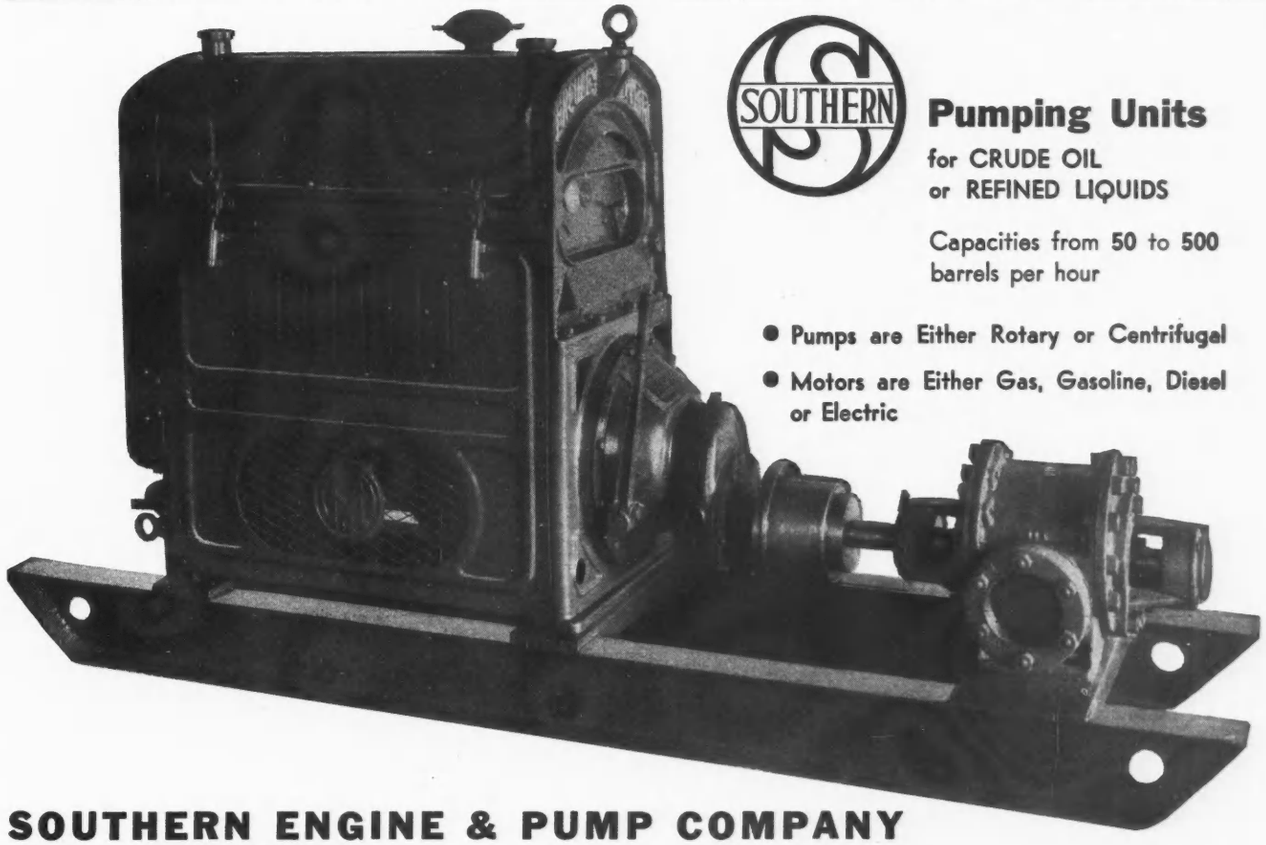
Gulf Pipe Line Company has connected to American-Liberty Oil Company's Rambo 1 and is taking its oil. Due to the drilling spurt caused by this four-mile southwest extension the owners find a ready market for the gas that is being produced with the oil.

Cass County is rapidly becoming the more active part of Rodessa and the uncertainties of regulatory measures and the difference in levies between Louisiana and Texas are contributing toward taking the heavier part of the play into Texas.

Reports are heard that Marathon Oil Company is negotiating with Atlantic Pipe Line Company to acquire the latter's pipe line right of way from Longview to Rodessa which was acquired by the latter several months ago. Marathon Oil Company has a large amount of acreage in the Cass County "trend." Should such a trade be made the company could build a line to move its own oil and that of Atlantic Oil Producing Company to Longview with Atlantic Pipe Line Company moving it thence to the coast.

Fancy prices are being paid for Cass County acreage close to production. Typical of recent transactions is that of O. J. Rowe and J. I. Roberts who sold the east half of the northwest 18.66-acre tract in the J. H. Rives Survey to W. F. Lacey who in turn sold Leonard Company a quarter interest with one completed well for $30,000. Lacey then gave contract to Red Iron Drilling Company to drill the well for $55,000 out of a quarter production.

The East Texas border counties continue to get a heavy volume of lease and royalty buying. A recent "play" has developed around Harleton where leases are bringing as high as $15 per acre. Six miles east of Harleton, Atlantic Oil Producing Company has a torsion balance unit at work and three miles west of Jefferson, Marion County,



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the same company has a seismograph unit at work. North of Jefferson around the S. Tuscana Survey, Amerada Petroleum Corporation has a shooting unit working. Seaboard Oil Corporation's seismograph unit has been transferred from Atlanta, Cass County, to Talco.

In Cass County, north of Linden where Gulf Oil Corporation, H. L. Hunt, Incorporated, and others have been leasing recently, Empire Gas & Fuel Company leased 1000 acres in the J. A. Fort, F. Frazier and adjacent surveys. One mile north of Douglasville, C. W. Perryman has leased approximately 1500 acres in the W. Wimberley and adjacent surveys.

J. G. Puterbaugh (McAlester Fuel Company) has assembled approximately 10,000 acres in Harrison County, south of Marshall, centering around the George W. Martin Survey and west of this block Bradley and associates of Houston are seeking geophysical options. In Panola County, Magnolia Petroleum Company has a seismograph unit working four miles east of Carthage and Shell Petroleum Corporation's geophysical party continues working south of Carthage.

CONSOLIDATED

Shreveport.—A consolidation of all the oil interests in East Texas of R. G. Trippett, Al H. Meadows and J. W. Gilliland, including 18 companies, into the General American Oil Corporation, chartered in Texas, was announced here last week by these three associates.

The assets of the new company now aggregate $10,000,000, it was reported. The new company formed by the consolidation owns 200 miles of gathering line in East Texas, has 600 well connections, has 255 producing wells, three refining plants, and two natural gasoline plants.

Headquarters of the company will be in Shreveport. Gilliland will be chairman of the board of directors; Trippett, president; Meadows, vice president and secretary-treasurer; and Harry L. Viser, comptroller.

Movement of personnel comprising about 20 families and office equipment to Shreveport starts this week.

A subsidiary firm, Bell General Pipe Line Company, will handle the connections in the East Texas field.

CHARGE FRAUD

Shreveport.—Two men were arrested last week and warrants were in the hands of Louisiana state enforcement officers for two others in connection with an alleged attempt to circumvent oil enforcement.

Officers said that 17 tank cars were loaded with water at Rodessa and these 17 cars were billed to an East Texas refinery as crude oil. When the cars reached the refinery the water was secretly drained off and East Texas oil substituted therefor on which applications for tenders were made on the allegedly false bills of lading.

STILL LEASING

Arkansas Permian strike holds operators' interest

WEEKLY STAFF REPORT

El Dorado, Ark.—The leasing and geophysical exploration campaign east and southeast from Snow Hill, Ouachita County, Arkansas, where Phillips Petroleum Company recently completed a Permian lime wet gasser at 4926 feet, continues to gain momentum both in South Arkansas and Northeast Louisiana.

Among companies joining in the leasing campaign in Morehouse Parish, is Tide Water Oil Company which also has a geophysical crew working in the vicinity of the Snow Hill Permian wet gas discovery well getting geophysical information to check against the log of this well.

In Ouachita County ¾-mile east of the Snow Hill discovery gasser, Lion Oil Refining Company recently bought SE NW 26-15-15 for a reported consideration of $20,000 cash and $30,000 from 7/128 of production.

Practically all geophysical crews that had been working in the North Louisiana Basin have been transferred to the southeast trend exploration campaign southeast and east from Snow Hill.

TWO PERMITS

El Dorado, Ark.—Two drilling permits were authorized last week by the Arkansas Board of Conservation, as follows: Miller County, King Oil Corporation, Texarkana, Arkansas, Mann Estate 1, located 330 feet south and east NWc NW SW 1-16-26; Ouachita County, Mrs. Rhoa Armstrong, Houston, Texas, A. V. Bragg Estate 1, located 330 feet north and west of center of Section 25-13-18.

ARKANSAS

Completions

Company, Well and Location	Init. Prod. Bbls	Depth
UNION COUNTY (Rainbow City)—		
J. E. Crosbie, Inc., M. W. Sullivant 5, 12-17-14	297	3169

*Failures; †Junked; ¶Million cu. ft. gas.

MISSISSIPPI

Jackson, Miss.—T. S. Stoneman and associates last week made location for a proposed 5000-foot test in Wilkinson County, southwest Mississippi, the location being L. T. Ventress 1, Section 38-2n-3w. While contract depth is 5000 feet if the Cockfield is logged at shallower depth the test can be abandoned.

Cranfill & Germany and Sun Oil Company are doing curative work on their acreage in township 4 north, range 15 west, Lamar County, south Mississippi preparatory to making a location.

Fred E. Courson of Hattiesburg, has leased approximately 100,000 acres in Perry County, south Mississippi, much of it land owned by J. J. Newman Lumber Company and plans to drill two 3000-foot tests. Companies reported to have taken spreads are Sun Oil Company, Humble Oil & Refining Company, The Texas Company, Magnolia Petroleum Company and Cordova-Union Oil Company.

PROTEST ALLOWABLE

Jackson, Miss.—Protests against the recent proration order issued by the Mississippi State Oil & Gas Board regulating withdrawal of gas from the Jackson field under provisions of an act of the last legislature, were protested last week by three companies operating in the Jackson field; namely, Love Petroleum Company, Jackson Oil & Gas Corporation, and Wilmut Oil & Gas Company. The objections were over-ruled. Protestants may seek an injunction restraining the board from enforcing the regulations.

MOUNTAIN STATES

Completions

Company, Well and Location	Init. Prod. Bbls	Depth
MONTANA		
GLACIER COUNTY		
Cut Bank Field—		
Texas Co., Tribal Indian 2 (M-615B) Lot 1, 6-32n-5w	108	2874
Montana Headlight, Britton 3, ne se 11-34n-6w	10	2860
Montana Power Gas Co., Van Ormer 2, se se 8-33n-5w	35	2892
Warfield Unit 1, ne sw 9-35n-5w	¶10	2799
TOOLE COUNTY		
(Kevin-Sunburst Field)—		
Big West Oil Co., Dahlquist 1, sw ne nw 21-35n-3w	3	....
WYOMING		
CARBON COUNTY		
(Rock River Field)—		
Ohio Oil Co., State 1, sec ne 34-20n-78w	400	3290
¶Million cubic feet of gas.		
NEW MEXICO		
LEA COUNTY (Eunice Field)—		
Atlantic O. P. Co., State 1-K, c se sw 6-21s-36e	3000	3886
Conoco-California Co., Meyer 2,-B-18, c ne nw 18-21s-36e	6000	3934
Gulf Oil Corp., F. Leck 1, cnw ne 14-21s-36e	550	3875
Jim Murray et al, W. J. Wallace-State 2, c lot 12, 3-21s-36e	1000	3846
Repollo Oil Co., Roach 1, nw nw nw 21-20s-37e	2000	3847
State 6, ne ne nw 19-21s-36e	1500	3938
State 1-196, sw sw sw 32-20s-37e	1800	3860
Shell Pet. Corp., State 1-E, c lot 9, 6-21s-36e	1000	3886
Tide Water, State 2-E, c se se 16-21s-36e	5000	3906
LEA COUNTY (South Eunice Field)—		
Repollo Oil Co., O. J. Boyd 1, sw sw nw 23-22s-37e	100	3700
LEA COUNTY (Monument Field)—		
Amerada Pet. Corp., L. M. Lambert 1, c nw ne 6-20s-37e	3000	3890
State 1-R, c ne sw 29-19s-37e	1200	3945
Anderson-Prichard Prod. Corp., Britt-Conoco 1-A-6, c se sw 6-20s-37e	1500	3906
Ohio Oil Co., State-Elliott 2, c ne se 30-19s-37e	1500	3940
Skelly Oil Co., State 2-D, c ne se 1-20s-36e	750	3886
LEA COUNTY (Wildcat)—		
Culberson, Erwin & Stovall, J. B. Humphrey-Humble 1, c se sw 3-25s-37e	*	3702

*Failures; †Junked; ¶Million cu. ft. gas.

Indian Land Lease

BRITISH-AMERICAN TO SURVEY IN WYOMING

ROCKY MOUNTAIN FIELDS

WEEKLY STAFF REPORT

Casper, Wyo.—An interesting departure for the development of prospective Indian oil and gas lands was made this week when the Department of Indian Affairs granted British-American Oil Producing Company of Tulsa, the only bidder, a permit for geophysical exploration of Shoshone lands in the Wind River reservation, Fremont County, Wyoming.

The permit requires a seismograph survey of a block of 19,040 acres which embraces the Ewalt structure. British-American Oil Producing Company has the option of leasing half of this block in alternate tracts of 160 acres following completion of geophysical work. The bonus was paid by British American on 9250 acres that it may select. The remaining half of the block may be put up for competitive bidding at discretion of the Secretary of the Interior at any time following completion of the geophysical survey.

Amount of the British-American's bid was not disclosed but it is understood that the price, including bonus, 25 cents per acre first year rental, and cost of sale does not exceed one dollar per acre.

Lands embraced in the permit are: Section 14, SW¼ and E½ Section 15, Sections 16, 20, 21, 22, 23, 25, 26, 27, 28, 34, 35, and 35-5n-2w; Sections 19, 29, 30, 31, 32, and 33-5n-1w; Sections 1, 2, 11 and 12-4n-2w, and Sections 4, 5, 6, 7 and 8-4n-1w, covering the Ewalt anticline.

British-American is expected to have a crew in the area in the next few weeks to make a seismograph survey of the structure. Ewalt anticline is 10 miles in length and three miles in width. It is a long northwest-southeast trending anticline in the tertiary. Surface formation is the Wasatch, and if a geophysical survey confirms a structure in the cretaceous, the structure will be drilled as a light oil prospect.

The Frontier formation is expected at around 1200 feet, the Muddy at 2400 feet, the Dakota at 2500 feet and the Sundance at 3000 feet. E. W. Krampert of Casper geologized the structure and interested British-American Oil Producing Company in the area about a year ago. Krampert is now Rocky Mountain geologist for the Superior Oil Company.

Program of geophysical exploration stated in the permit agreement calls for two cross sections. The cross section AA is to run from the SW 2-4n-2w to the NE 30-5n-1w. Cross section BB starts in the northwest corner 15-5n-2w to the center of 36-5n-2w and thence southeast through the northwest corner of the NE 3-4n-1w and thence east to the point of intersection on the east line of 8-4n-1w.

The profile BB starts on Sheldon Dome, where the Marine Oil Company drilled Government 1, northwest corner 15-5n-2w in 1921. This well developed 10 million cubic feet of gas daily in the Wall Creek sand at 2800 feet.

All records of the survey, maps, plats and cross sections have to be furnished the Department of the Interior by the British-American Oil Producing Company, which has the option of drilling a well or making additional seismograph surveys for the location of a well if the preliminary shots show the existence of a closed structure.

Adding to the growing interest which centers in the Lance Creek field, near Lusk, Niobrara County, eastern Wyoming, was the completion of the Continental Oil Company's Agnes Rohlff 6, CSW SW 32-36n-65w. Agnes Rohlff 6 flowed 1800 barrels oil in the second 24-hour period after cleaning itself. Basal Sundance was logged at 3776-3809 feet and hole bottoms at 3819 feet in the red beds.

The Argo Oil Company's Elliott 7, CNE SW 5-36n-65w, Lance Creek, is rigging up pumping equipment for production test. The well swabbed 70 barrels daily without lowering fluid below 3000 feet. When shut in, the well heads every 72 hours. A tight basal Sundance sand at 3941-97 feet was encountered, bottom of the hole being 4009 feet.

Continental Oil Company's Apex 3 Account 2, SE NW 34-36n-65w, east extension to Sundance production at Lance Creek, is checking high. The well is coring aat 3020 feet. The company's Jose 4, CSW NE 6-35n-65w, is drilling at 3748 feet.

South extension test of the Sundance pool at Lance Creek, MacKinnie Oil & Drilling Company's Mary Thompson 1, NW NE 7-35n-65w, is waiting on cement to set around the 12½-inch surface casing at 147 feet.

Ohio Oil Company's Lamb 8, Account 2, CSW NE 5-35n-65w, Lance Creek, is drilling at 2691 feet.

South Central Wyoming

Deepening of old wells in Rock River field, south central Wyoming, has proved highly profitable to Ohio Oil Company. This week saw the starting of another deepening operation there by Ohio and also in the Oil Springs Structure, not far from Rock River. The Oil Springs structure has been closed for several years and was proved for light oil production.

Ohio Oil Company's Baker 1, northwest corner SW 2-23n-79w, is cleaning out and moved in rig. This well drilled on Oil Springs in 1919, went to 1498 feet, developed gas and then bottom hole water. The rig burned and all operations were suspended.

In Rock River field, Ohio Oil Company is drilling at 3305 feet in Alvy Dixon 4, southeast corner 34-20n-78w. In 1922 this well completed at 3242 feet in the Dakota sand. The company's Alvy Dixon 1, SE 34-20n-78w, is waiting on cement to set after plugging back 30 feet from 3314 feet in the Sundance where well started making water after swabbing 1000 barrels in the first 24 hour period. The Sundance was topped at 3255. Ohio's Diamond Cattle Company 7, N 35-20n-78w, Rock River, is spudding.

The California Company and Ohio Oil Company's operations in Big Medicine Bow field, Carbon County are as follows: Union-Pacific 2, CNE NE 35-21n-79w, drilling at 4912 feet; Union-Pacific 3,

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HOUSTON, TEXAS

CNE SE 23-21n-79w, drilling at 4311 feet.

Sidney H. Keoughan and the Union Oil Company's Union-Pacific 20-X, 1800 feet from the east 1320 feet from the south lines of 1-18n-78w, in Dutton Creek field, Carbon County, is drilling at 4456 feet.

Northern Wyoming

Northern Wyoming reports a new well starting in the Byron field, Big Horn County, Ohio Oil Company's State Land 1, northeast corner Lot 38 Section 36-56n-97w. The company is shut down in Byron-Union 4, CSW NE 25-56n-97w, while running 2000 gallons of acid to treat the Embar lime. The Embar was topped at 5587 feet and drilled to 5735 feet, where it developed bottom hole water. It was plugged back to 5700 feet. The well went out of the Embar into the Tensleep sand at 5714 feet. Ohio's Robert Till 1, CSE SW 24-56n-97w, is drilling at 4426 feet and Orson Vail 1, CNW NE 23-56n-97w, is drilling at 586 feet after cementing 12½-inch surface casing at 419 feet.

Sidney H. Keoughan and the Taylor Oil Company are rigging up rotary for Robinson 1, NE NE 24-56n-97w, in the Byron field.

Stock Oil Company is running 8⅞-inch casing in Yates 1, center of the south line SW NE 35-56n-97w, on Garland anticline. Depth of the hole is 2523 feet. This company is drilling Allen 1-X at 1492 feet. It is a direction hole to kill a wild gasser on Garland, at 1492 feet. Allen 1, SE NW SE 35-56n-97w, is flowing an estimated 60,000,000 cubic feet of gas daily from the Embar-Tensleep at 3815 feet.

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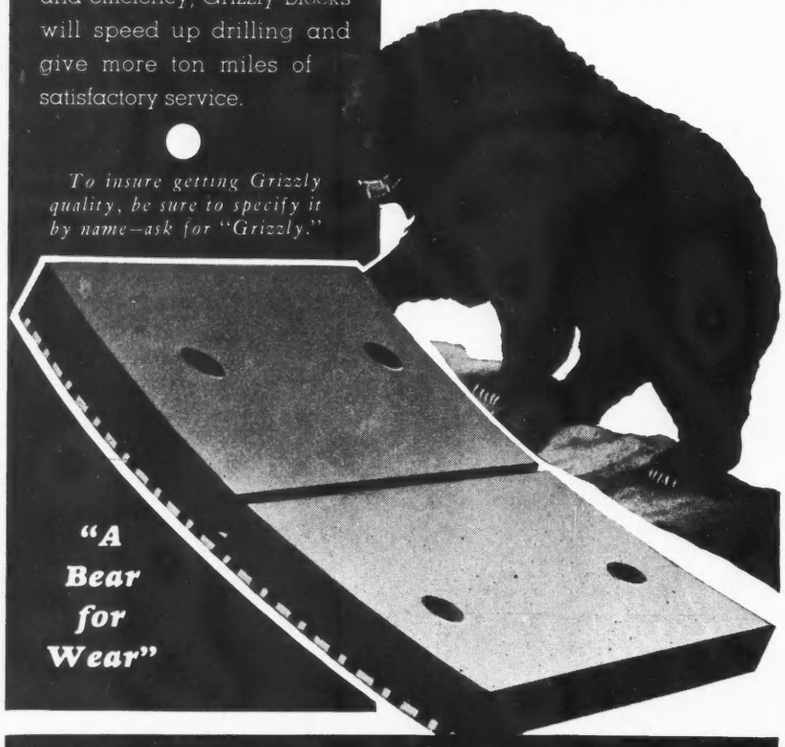

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WILL TEST AGAIN

Little Beaver Dome well having water trouble

Great Falls, Mont.—Montana-Dakota Utilities Company's Unit 1, NE NE NW 17-4n-62w, on Little Beaver dome, Fallon County, Eastern Montana, will have another production test as soon as cement sets after cementing back to 30 feet from 6797 feet to shut off what is believed to be bottom hole water. The well flowed 28 barrels per hour of clean oil through the casing with valve scarcely cracked after being shut in 25 hours, but when it flows open it makes around 80 percent water.

On first testing after injection of 2000 gallons of acid the well flowed 3300 barrels of fluid daily through the 2½-inch tubing with perforations at 6789 feet. It flowed 7650 barrels of fluid daily on a half-hour test through the tubing and casing on a later test. The 6⅝-inch production casing is set at 5739 feet with saturation reported topped at 6747 feet. It is now generally accepted that the production zone is the Madison lime.

Little Beaver strike is the first oil to be developed on the Baker-Glendive anticline which is 96 miles in length and extends northwest from Hardin County, South Dakota, through Fallon County, into Dawson County. The anticline has an average width of 6 miles and a closure of 500 feet.

Cut Bank

A good well was finished this week in the Cut Bank field, Glacier County, Northern Montana, by Nadeau Brothers, while two others complete and four wells start.

Nadeau Brothers' Farmers State Bank 3, CSW NE 17-33n-5w, swabbed 100 barrels in the first 3 hours, 300 barrels in the first 24, and 240 barrels in the second 24 hours.

Montana Power Gas Company completed a 75-barrel well in Corrigeaux 2, NE NW 28-33n-6w.

R. C. Tarrant's Britton 6, SW SW 12-34n-6w, is rated for a 50-barrel well. It is making 30 barrels on the pump from 2845 feet.

Tarrant and the Montana Power Gas Company both released new locations, Tarrant's Everett Hope 1 being in CNW SW 19-34n-5w, and Montana Power Gas Company's Mueller 1, in CSE SE 7-33n-5w, is a location.

Montana Headlight released location for Yunck 5, CSW NW 1-34n-6w, and Manning & Marshall's Tribal 2, 120, Lot 8, 7-32n-5w, is a new well.

Pondera Field

Jewell's Anderson 1, in the southeast corner of NE NE 9-27n-4w, in the Pondera field, Pondera County, Northern Montana, is making 45 barrels oil daily after acidization. Warren Hastins will acidize Erickson 2, NW SW NW 10-27n-4w, after getting thin saturation at 1990 feet. W. M. Fulton's Price 1, SE NE NE 17-27n-4w, is drilling at 400 feet.

Daniels Petroleum Company's May 1, CSE SE 13-1s-33e, deep test of the Hardin gas field, Big Horn County, is drilling at 3368 feet.

New Field Found

KERN COUNTY TEST FLOWS 600 BARRELS PER DAY

WEEKLY STAFF REPORT

Los Angeles.—A new oil field for Kern County on the floor of the San Joaquin Valley was discovered June 2 when Shell Oil Company's K. C. L. 1 started flowing at a rate of 600 barrels of 61 gravity oil, accompanied by 15,000,000 cubic feet of gas. Within 12 hours, production built up to 1100 barrels through 1-inch choke with no change in gravity. Pressures were 1200 pounds on the tubing and 800 pounds on the casing, with casing pressure gradually increasing.

This well is 7888 feet deep, with 6⅝-inch casing cemented at 7800 feet. Total of 110 feet of 4¾-inch liner was landed which included 92 feet of perforated. The location is 175 feet south and 900 feet east of the west quarter corner of Section 9-30s-26e, and about 7 miles east of the Elk Hills field, approximately halfway between Bakersfield and Taft.

Shell Oil Company holds a 4000-acre lease and Ohio Oil Company has some leases in the general area.

High gravity of the oil is due to the large amount of gas under heavy pressure, indicating a condition similar to that in Kettleman Hills early in the history of the field before the heavy gas was cased off.

Three new wells at Redondo Beach, which had an aggregate initial production of 900 barrels, all were completed originally as pumpers, although one of them flowed of its own accord after cleaning. Walken Oil Company's No. 1 is flowing to sump estimated 350 barrels a day, after having been on the pump a short time. Production appears to be clean and is flowing from 3160 feet with rods in the hole. Redondo Oil Corporation's Security 1 was placed on pump May 28 making an estimated 300 barrels a day of 15.5 gravity oil, cutting 5.0 percent, from a depth of 3640 feet. Tu-Jax Oil Company's No. 1 was completed May 27 pumping 250 barrels a day of 15.0 gravity oil, 5.0 percent cut.

Chansellor-Canfield-Midway Oil Company's Del Amo 23, deep test of the Torrance field, with bottom at 4887 feet and seven-inch casing cemented at 4740 feet, was wet on an initial shut-off test. Casing was recemented, tested wet again, and a water witch is now being run.

Eastern Oil Company's D.R.L.&W. 1, Section 22-2s-15w, is bottomed at 7420 feet in oil sand. Seven-inch casing was landed at 7300 feet, but it was not possible to cement the pipe under 2500 pounds pressure. An attempt is being made to establish circulation in order to cement pipe.

In the Montebello field of Los Angeles County, Richfield Oil Company's Ciocca 1 on a formation test from 5890 to 5992 feet flowed 53 minutes at the rate of 1200 barrels a day with four million cubic feet of gas. On a later formation test from 5986 to 6071 feet, open one hour, the well produced 56 stands of salt water.

East of the Torrance field in Section 20-4s-13w, Eyer Petroleum Company placed a well on the pump May 23 for 100 barrels a day of 13.0 gravity oil, cutting 10.0 percent. The well is 3608 feet deep, plugged back from 3700 feet.

In the same area, the General Petroleum Corporation's Terminal 1, Section 4-5s-13w, was drilled to 2694 feet in oil sand and is standing cemented with nine-inch at 2450 feet.

Harbor Drilling Company's No. 1 is 3566 feet deep in oil sand, and the hole is being reamed preparatory to running casing. Sovereign Oil Corporation's Banning 1 is pumping 110 barrels a day, 15.0 gravity, 2.0 percent cut.

Wildcat Will Test

L. Jean Marvin's Woods 1, wildcat test in the El Segundo district, Section 7-3s-14w, has been drilled to 7521 feet in gray conglomerate. Top of the conglomerate was cored at 7458 feet, and the top of the oil sand was topped at 7463 feet. The hole will be plugged to about 7500 feet and a test made of the formation around 7450 feet.

Ohio Oil Company's Gough 1, Section 7-3s-14w, is drilling at 2700 feet, having just cemented 11¾-inch surface casing at 1047 feet.

McVicar and Rood's wildcat test of the San Jose hills, Section 6-2s-9w, is drilling at 1800 feet in shale with streaks of oil sand. Commercial production is expected at 2250 feet or less.

In the Shiells Canyon district of Ventura County, Petroleum Securities Company's Home Ranch 3 is coring at 3510 feet in gray sand showing oil cuts and giving a good odor. Top of these showings, which are considered productive, was cored at 3483 feet. A formation tester run at 3295 to 3339 feet showed 770 barrels per day of oil and 102 barrels of water. A formation test at 3373 to 3409 feet showed all water.

Ventura Exploration Company's Sexton 1, Section 30-3n-22w, Ventura County, is being rigged up to deepen. This project originally was drilled to 7073 feet and has been idle since last summer.

Rincon Oil Company's No. 3, situated on an isolated island built of steel off the Ventura County coast line on government permit number 82, was completed May 28, pumping 80 barrels a day of 31.7 gravity oil from 2109 feet.

In Solano County, Amerada Petroleum Corporation's Emigh 1, Section 26-4n-2e, made a formation test from 4376 to 4410 feet and obtained gas production estimated at 20 million cubic feet. Preparations are being made to set casing.

In the new Santa Maria field, Santa Barbara County, Union Oil Company has made a location for Mahoney 1, 330 feet south and 990 feet west from the center of Section 24-10-34.

R. R. Bush Oil Company's Hancock-Enos 1 is rigging up. This test will be drilled 330 feet north and 990 feet east from the southwest corner of Section 13-10-34.

Two Wells Deepened

E. H. Moore has deepened the abandoned Shell Oil Company's Union Sugar 1-A, Section 25-10-35, to 3054 feet in oil sand and shale, and preparations are being made to test this zone.

The Texas Company is preparing to deepen K.C.L. C-49, Section 11-11n-22w, Kern County. Originally drilled to 7622 feet by the Ohio Oil Company, this test was abandoned in December, 1935.

The Standard Oil Company has made a location for Mabry 1, 330 feet north and 330 feet east from the southwest corner of Section 18-30s-29e.

Hogan Petroleum Company's Foster Community 4, Section 32-30s-29e, Mountain View field of Kern County, was completed May 27 at 5912 feet for 830 barrels a day of 31.0 gravity oil.

Union Oil Company is deepening Gibson 7, deep test of the Belridge field, at 9571 feet in shale. Several unsuccessful production tests were made with bottom at 9492 feet.

Richfield Oil Company is abandoning Alferitz 2, wildcat test in Section 14-25-18, after being drilled to 3509 feet in gray sand.

T. E. Connolly's Borton 1, deep Santa Margarita test of Fruitvale field, has been abandoned at 4800 feet in gray sand.

Magnet Oil Company's Anderson 1, outside test in the Fruitvale field, was placed on the pump on May 20 for 280 barrels a day of 24.2 gravity oil, cutting 70 per-

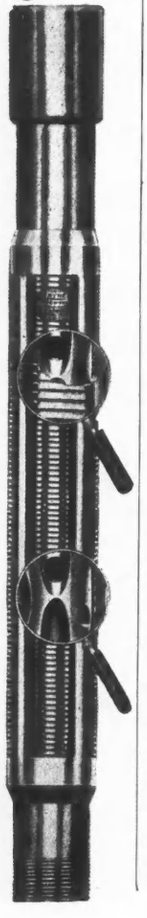
CALIFORNIA

Completions

Company, Well and Location	Init. Prod. Bbls	Depth
KETTLEMAN HILLS—		
Standard, No. 27-19J	1614	8840
Kettleman North Dome, No. 27-20J	1200	8603
No. 6-27J	1430	8150
EDISON—		
Jergins Trust, Brandt 6	50	4395
KERN FRONT—		
Associated, Young 51	375	2100
Texas Company, Lehman 12	150	2040
Union, Del Rey 8	45	1692
MIDWAY-SUNSET—		
Otis Hoyt, No. 1	60	1616
Quality Oil Company, Cypress 2	200	1986
Shell, Dorsey-Flack 1	35	2794
Standard, No. 5K-4	200	2715
MOUNTAIN VIEW—		
Hogan Pet. Co., Foster Comm 4	1200	5912
Shell, Bahrenburg 3	125	5966
ROUND MOUNTAIN—		
Honolulu Oil Corp., No. 20-C	400	1940
Shell, Caldwell 11	540	1630
Caldwell 12	650	1750
KERN COUNTY—		
General, Doyle-McKeon 1	*	6149
Miley-Unger, Unger 1	*	1619
MONTEBELLO—		
Universal Cons. Oil Co., Pasadena 1	1950	5573

*Failures; †Junked; ¶Million cu. ft. gas.

THE Pay-off IS AT THE BOTTOM -and THAT'S WHERE THE LAYNE SCREEN Rules Supreme



The LAYNE & BOWLER CO.

HOUSTON, TEXAS

cent. Depth of the well is 4112 feet, with 8⅝-inch casing cemented at 3985 feet.

Robert S. Lytle is drilling Dorsey 3 at 1350 feet in shale, having spudded on May 24. This well is located 200 feet south and 688 feet east from center of Section 26-27-28.

Seaboard Oil Corporation's Kern 3 is deepened to 3145 feet in shale. A formation test from 2755 to 2785 feet showed no gas nor water. This well is in the Buttonwillow gas field and is being deepened to the Arlington sand.

J. E. O'Donnell's Bloemer 1, Section 17-30-29, tested wet and is standing recemented the second time. Hole is plugged to 3940 feet with seven-inch shut-off cemented at 3865 feet.

Kern Front Tests

In Kern Front field, two exploratory wells have cored oil sand. American Exploration Company's No. 1, Section 16-28-27, is coring at 2760 feet in oil sand and shale. Top of the Chanac was cored at 2641 feet. Republic Petroleum Company's Crosby 1, Section 12-28-27, is coring at 1724 feet in oil sand.

C. J. Gibson's O'Brian 3, Section 6-11-23, was completed May 29 for 2560 barrels a day of 23.4 gravity oil, flowing through a 40/64-inch bean with 350 pounds tubing pressure and 500 pounds casing pressure, along with 1,200,000 cubic feet gas. Depth of O'Brian 3 is 2854 feet, with nine-inch shut off cemented at 2734 and 160 feet of 6⅝-inch liner, including 120 feet of 120-mesh, landed at 2854 feet. This is the best completion so far in the revived Maricopa Flats field.

In the same area, General Petroleum Corporation's Main Line 2, with bottom at 2802 feet, cored into gray sand at 2745 feet. Oil sand was cored 2653 to 2745 feet. Casing is standing cemented at 2588 feet.

Shell Oil Company's Dorsey-Flack 1, which was placed on the pump May 24 for 117 barrels a day of oil in 10 hours, is now pumping 41 barrels a day, cutting 50 percent. Depth is 2794 feet, with 8⅝-inch water string cemented at 2682 feet.

Signal Oil & Gas Company has built a rig for Sheehan 6, 400 feet north and 572 feet east from the southwest corner, NE SW Section 8-11-23.

In Stevens area, Kern County, Shell Oil Company's K.C.L. 1 is conducting a production test. The hole is bottomed at 7888 feet in Santa Margarita oil sand, with seven-inch casing cemented at 7800 feet. Water shut-off has been obtained, the hole cleaned out to bottom, and preparations are being made to swab the well for production. This is considered the most important well in San Joaquin Valley.

MICHIGAN

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
GLADWIN COUNTY—		
M. F. Whitehill, Bell 1, 17n-2w, nw nw ne-11	350	3825
GRATIOT COUNTY—		
Gulf, Redman 1, 12n-1w, ne se sw-1	*	3252
GRAN TRAVERSE COUNTY—		
M. J. Ingold, Miller 1, 26n-11w, nw sw nw-23	*	3330
ISABELLA COUNTY—		
McClanahan Oil Co., State B-1, 15n-3w, sw nw se-34	50	3620
MECOSTA COUNTY—		
Wiser Oil Co., Culey 1, 13n-7w, c se nw-30	¶13	1322
Columbia Oil Co., Skutt 1, 13n-8w, c sw se-24	¶4¼	1314
MIDLAND COUNTY—		
Pure, Rayner D-2, 13n-2w, nw se-12	140	3435
MONTCALM COUNTY—		
Midland Petrol & Gas Co., Gibbs 1, 12n-7w, c ne sw-3	¶67½	1269
Hyatt & Norton, Fouts 2, 12n-7w, nw nw-3	¶31¼	1279
W. R. Baker, Morse 1, 12n-7w, c nw nw-5	¶39	1315
C. M. Securities, Flint 1, 11n-5w, sw ne sw-35	565	3186
Daily Crude Oil Co., Strait 1, 10n-5w, se ne ne-4	310	3209
Mich. G&O Co.'s Youngs 1, 9n-6w, ne nw sw-1	*	3154
McClanahan Oil Co.'s Lincoln Life 1, 12n-5w, sw sw nw-29	*	3502
Star Pet. Co.'s Ward 1, 9n-5w, ne ne nw-20	*	3155
John Martin, Christensen 1, 10n-6w, se se nw-20	*	3255
NEWAYGO COUNTY—		
E. M. Neff, Sippley 1, 16n-13w-26	*	2996
OGEMAW COUNTY—		
Muskegon Dev., Barber 2, 22n-2e, se sw nw-28	100	2730

*Failures; †Junked; ¶Million cu. ft. gas.

EASTERN FIELDS

WEEKLY STAFF REPORT

Completions

Company, Well and Location	Init. Prod. Bbls	Depth
OHIO		
ATHENS COUNTY—		
A. D. Townsend & Co., G. E. Shelton 1	¶	465
Oliver F. Lowther, Clyde Cody 3	*	956
GUERNSEY COUNTY—		
Preston Oil Co., Stoneburner 2	¶	1483
JEFFERSON COUNTY—		
E. Ferguson & Son, Galt 1	8	750
KNOX COUNTY—		
J. B. Reed, Rummell 1	¶	....
LICKING COUNTY—		
E. H. Everette Co., Montgomery 9	120	3025
Hope Construction & Refg. Co., Jesse Cathral 3	205	3083
George H. Long, Eliza J. Fulton 4	2	725
MONROE COUNTY—		
Gordon Greene & Co., W. M. Leasure 4	2	1275
PERRY COUNTY—		
Thistle Oil Co., Carlos C. Stotler 12	10	1080
WASHINGTON COUNTY—		
Mary Wickens & Co., Wm. Davidson 17	2	1035
WEST VIRGINIA		
LOGAN COUNTY—		
Boone County Coal Co., Boone County Coal-G7	¶	....
Rummell & Co., Zeibold 1	¶	....
PLEASANTS COUNTY—		
Accidental Oil Co., Dillon 3	5	....
RITCHIE COUNTY—		
Carnegie Gas Co., Tate 22	4	....
Creed Barker & Co., Barker 1	5	....
W. R. Cary, Metz 1	¶	....
BOONE COUNTY—		
Pure Oil Co., Federal Coal Co. 81	¶	....
Ira G. Sayres, Pickens 8	¶	....
KENTUCKY		
OHIO COUNTY—		
Teller & Co., G. H. Medcalf 2	20	....
W. E. Hupp & Co., I. T. Westerfield 2	45	....
Kentucky Nat. Gas Co., Nannis Rogers 14	90	....
McLEAN COUNTY—		
Walter Sargent, H. D. King 2	50	....
Hupp & Duff, Tanner Tract 3	150	....
J. C. Miller, Crow Tract 1	75	....
INDIANA		
PERRY COUNTY—		
Charles Dice, Chas. Kurtz 3	20	....
DAVIESS COUNTY—		
Oliphant & Sage, Paul Fuhrman 1	¶	....

*Failures; †Junked; ¶Million cu. ft. gas.

THE OIL WEEKLY REPORT ON IMPORTANT *Wildcat Tests*

ALABAMA

HOUSTON COUNTY — Rice O&G Co.'s Oakley Est. 2, nw sw 9-3n-29e, sd for drilling line 3580 ft gray sand.

ARKANSAS

BRADLEY COUNTY—Phillips Pet. Co.'s Murphy Land Co. 1, nw nw 12-17-11, rur.

CALHOUN COUNTY—Ben Barnett, Tr.'s Freeman Smith 1, se nw sw 36-15-14, tested sw 2770-83 ft, dr 2950 ft. Proetz & Brown's Calion Lbr. Co. 1, se sw 22-15-15, rur.

COLUMBIA COUNTY — J. C. Buckbee, Tr.'s J. B. Wilson 1, sw ne 17-17-18, elev 319 ft, dr 4020 ft.

CRAWFORD COUNTY — Trumbo et al's Craddock 1, c nw ne 3-11-30, top Miss. lime 965 ft, top Wilcox 1527 ft, dr 1605 ft.

DALLAS COUNTY—Kel-Mac Oil & Roy. Co.'s Owens 2, nw sw 26-10-16, sd 1925 ft.

HEMPSTEAD COUNTY—Easton & May's Conway 1, ne sw 20-12s-27w, elev 290 ft, massive anhydrite 1913-69 ft, core red beds and anhydrite 2159 ft. M. D. K. Fitzwater et al's Lafferty 2, ne se nw 17-14-27, elev 330 ft, top red beds 2332 ft, coring 2421 ft.

LA FAYETTE COUNTY—A. M. Neely's Meek 1, ne nw 35-19-25, rur. Ohio Oil Co.'s Bodcaw Lbr. Co. 3, nw nw 20-16-23, elev 250 ft hole clean arr core 7561 ft.

LITTLE RIVER COUNTY — Roberts et al's Hall 1, owdd, td 1920 ft.

LONOKE COUNTY—Frank F. Silver's Jos. Chambers Est. 1, sw ne nw 17-2-7, rur.

MILLER COUNTY—King Oil Corp.'s Mann 1, 2-16-26, woc 10-in csg 200 ft. Deep Rock Oil Co.'s Williams 1, nw sw nw 6-16-25, 12½-in csg 460 ft, top Nacatosh 1270 ft, dr 1795 ft.

OUACHITA COUNTY—Rhoda Armstrong's (formerly carried Armstrong & Rhoda) Bragg 1, se nw 25-13-18, spd 12½ in csg 52 ft. Carnes & Harrel's Robertson 1, nw se 7-12-19, elev 176 ft, top Nacatosh 1404 ft, dr 2110 ft. O. F. Whittaker's Howard 1, nw ne 20-12-16, top Nacatosh 1404 ft, dr 2290 ft. Lion O. R. Co.'s Reynolds-Berg 1, se ne 28-15-15, woc 601 ft. Phillips Pet. Co.'s Arnold 1, ne sw 27-15-15, 15-in csg 628 ft, dr 737 ft; Cheatham 1, sw ne 27-15-15, spd; J. M. Farris 1, sw ne 27-15-15, rur; Gette 1, ne se 28-15-15, spd; Harris 1, sw ne 28-15-15, 12½ in csg 650 ft, dr 2275 ft; Mary Murphy 1, ne ne 28-15-15, rur; Mary Murphy 2, ne ne 28-15-15, lcn, Standard Oil Co. of La.'s Reynolds B-3, se ne sw 27-15-15, 12½ in csg 640 ft, top Nacatosh 2035 ft, dr 3625 ft; Reynolds B-4, nw sw 27-15-15, mim. Jno. Pugh's Hildebrandt 1, se se 28-15-15, dr 3110 ft.

UNION COUNTY—J. C. Buckbee, Tr.'s Ezzell 2, ne nw 13-17-15, coring 4275 ft.

CALIFORNIA

FRESNO COUNTY

COALINGA—Jas. M. Conlon Co.'s No. 1, 30-19-15, td 887 ft pumping 90 bbls oil and water cut 45 percent.

CURRY MOUNTAIN—Standard's So. Coalinga 1, 36-21-14, dr hard sand and conglomerate 2145 ft.

CANTUA CREEK—Western Gulf's S. P. 3, 3-17-15, dr sand and shale 5960 ft.

KERN COUNTY

KERN FRONT—American Explor. Co.'s Exploration 1, 16-28-27, dr sand and shale 2785 ft.

LOST HILLS — Associated's Williamson 2, 2-26-20, rur.

POSO CREEK—Bargol Oil Co.'s Bargol 1, 11-27-27, dr clay 2002 ft.

McKITTRICK—Belmac Dr. Co.'s Douglas 1, 22-29-21, sd 4800 ft will drop from report.

SO. MARICOPA—E. A. Bender's Robinson 1, 14-10-23, td 458 ft bailed 10% oil and 90% water.

DEVILS DEN—Don Pet. Co.'s Bates 1, 20-25-19, rig.

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

*—*dry hole abandoned well.*	owdd—*old well drilling deeper.*
‡—*salt water (completions).*	owpb—*old well plugging back.*
†—*junked and abandoned.*	pb—*plugged back or plugging back.*
¶—*million 'eet o' gas.*	r—*reaming.*
abd—*abandoned.*	rog—*rig on the ground.*
bbls—*barrels.*	rur—*rigging up rotary tools.*
br—*building rig.*	rust—*rigging up standard tools.*
b.s.—*basic sediment.*	sd—*shut down.*
csg—*casing.*	sdtr—*sidetracking.*
co—*cleaning out.*	sg—*show gas.*
dd—*drilling deeper.*	si—*shut in.*
dk—*derrick.*	so—*show oil.*
dr—*drilling.*	so & g—*show oil and gas.*
fsg.—*fishing.*	spd—*spudding.*
ft—*'eet.*	sr—*straight reaming.*
hfw—*hole 'ull o' water.*	sw—*salt water.*
in—*inches.*	td—*total depth.*
lcn—*location.*	ur—*underreaming.*
m—*milling.*	wih—*water in the hole.*
mim—*moving in materials.*	wo—*workover.*
mit—*moving in tools.*	wocs—*waiting on cement to set.*
mot—*milling on tools.*	wosr—*waiting on standard rig.*
n, s, e, w—*north, south, east, west.*	
oih—*oil in hole.*	

ELK HILLS—Elk Hills Pet. Corp.'s No. 1, 14-31-24, lcn.

McVAN—Framac Oil Co.'s Brown 2, 22-27-27, last report td 1413 ft.

BUTTONWILLOW — General's Doyle-McKeon 1, td 6149 ft abd.

MOUNT POSO—R. S. Lytle's Dorsey 3, 26-27-28, dr silt 960 ft.

POSO CREEK—McAdams Oil Co.'s No. 1, 32-27-28, rig.

MT. POSO—H. Mann's No. 2, 27-26-28, sd 1537 ft.

MOUNTAIN VIEW—Mohawk Oil Co.'s Earl Fruit 1, 10-31-29, dr sand and shale 3229 ft.

POSO CREEK—Miley-Unger's Unger 1, 27-26-28, abn. 1619 ft top Vedder at 1220 ft, top Walker at 1455 ft.

KERN COUNTY

BUENA VISTA LAKE—Ohio's K.C.L. A-7, 5-32-26, showing gas 4217 ft; K.C.L. D-1, 1-30-25, dr sand and shale 8046 ft; T.I.T. 1, 36-11-19, dr sand and shale, 2631 ft.

EDISON—Pioneer Holding Co.'s Pioneer 2, 17-30-30, dr shale and sand 1480 ft.

MT. POSO—Poso Pet. Co.'s No. 1, 2-27-27, dr gray sand 2005 ft.

GRAPEVINE—Reserve Oil & Gas Co.'s Tejon 2-6, 2-10-19, sd.

DEVIL'S DEN—Richfield Oil Co.'s Alferitz 2, 14-25-18, fsh 3500 ft.

EDISON—R. & R. Dev. Co.'s R & R 3, 32-30-30, spud 5/23.

DOMINION — Santa Carla Oil Co.'s Bass-Goodnight 1, 19-26-28, lcn.

BUTTONWILLOW — Seaboard Oil Corp.'s Kern 3, td 3162 ft, deepening to Arlington zone.

KERN RIVER—Seven Spot Oil Co.'s No. 1, 13-20-27, rur.

STEVENS AREA—Shell's K.C.L. 1, 29-30-26, td 7888 ft, wocs 6⅝ at 7800 ft.

LOST HILLS—Standard's United 1, 2-26-20, dr gray sand 6388 ft.

COMANCHE POINT—Tejon Ridge Oil Co.'s Tejon 1, 23-32-29, r td 2394 ft.

MOUNTAIN VIEW — Treasure Dr. Co.'s Treasure 1, 12-30-28, dr shale 4775 ft.

MOUNT POSO—Union's Ford 1, 8-27-27, dr sand and shale 1550 ft; Tribe 11, 28-27-28, rig.

McFARLAND—Woods & Bailey's No. 1, 16-26-26, dr shale 4475 ft.

HUMBOLDT COUNTY

EUREKA—Texas' Eureka 2, 22-3-1, td 4357 ft, fsh.

KINGS COUNTY

PYRAMID HILLS—Associated's Avenal 1, 35-23-17, foundation. J. P. Herndall & Assoc. Spreckles 1, 16-24-18, td 4201 ft, hole cored to co.

MADERA COUNTY

DOS PALOS—Pure Oil Co.'s Chowchilla 3, 17-10-14, td 2800 ft tested for 13,000,000 ft gas.

SAN LUIS OBISPO COUNTY

Avila Oil Co.'s No. 1, 10-31-13, grading; Barnsdall Oil Co.'s Wreden 1, 24-28-17, td 3550 ft redr; Birch-Royer's Patchett 1, 33-31-13, td 1801 ft, crooked hole, redr 1400 ft; A. T. Jergins Trust's Lowther 1, 5-2-13, ready to spud. Pismo Pet. Co.'s Scott 2, 5-32-13, grading; J. C. Theriott's Holland 1, 22-32-22, td 2135 ft to deepen. Willett Oil Assn's Jack 2, 10-25-15, td 3648 ft, bridge 3000 ft, sd.

SOLANO COUNTY

RIO VISTA—Amerada's Emigh 1, 26-4-2, td 4410 ft to set 10¾-in.

TEHAMA COUNTY

CORNING — Northern Counties Pet. Co.'s Ewers-Mooney 1, 25-24-3, dr hard sand 7660 ft.

TERRA BELLA—W. H. Fortine's Mosesian 1, 22-27-26, rig.

MONTEREY COUNTY

NORTH DOME—Cholame Hills Dev. Co.'s Hillman 1, 15-24-14, rig. Shell's Branch 1, 34-24-10, dr sand and shale, 8993 ft.

SANTA BARBARA COUNTY

COAL OIL POINT—Bankline Oil Co.'s No. 2, Permit 191, td 860 ft, wocs 9-in at 860 ft, Casmite Co.'s Righetti 2, 13-9-35, rig.

SANTA MARIA—Hall-Baker Co.'s Preisker 5, 12-9-3, dr 1100 ft.

EL CAPITAN—La Canada Oil Corp.'s 35-5-30, spd 5/27.

LOMPOC—Lompoc Pet. Co.'s Butterbaugh 2, 18-7-34, sd 3940 ft.

BETTERAVIA—E. H. Moore's Union Sugar 1A, 25-10-35, dr shale 3235 ft.

SANTA MARIA—Union's Enos 19-1, 19-10-33, grading.

LOMPOC—York Oil Co.'s York 3, 33-8-34, rig.

VENTURA COUNTY

SHIELLS CANYON — Bankline Oil Co.'s Calumet B-1, 3-3-19, td 4617 ft, blank liner cemented on bottom.

BARDSDALE—Bestco Pet. Co.'s Frey 1, 2-3-19, dr gray sand 3510 ft.

PIRU—Bolsa Chica Oil Corp.'s Show 3, 4-4-18, dr oil sand 2670 ft; Show 3, dr 385 ft.

SOUTH MOUNTAIN — Calco Pet. Corp.'s Calco 3, 17-3-20, dr 3225 ft.

OJAI—Continental Oil Co.'s Pirie 2, 12-4-23, td 1025 ft, deepening in red sandy shale.

BARDSDALE—El Rancho Oil Co.'s Elkins 1, 9-3-19, sd 4041 ft.

OXNARD—General's McGrath 2, 26-2-35, dr hard shale 7218 ft.

SIMI—Jas. S. Hull's No. 1, 2-2-1, sd 1715 ft.

PIRU—R. R. Johnson's No. 1, 21-4-18, sd 1640 ft.

SESPE CANYON—Merchants Pet. Co.'s No. 1, 1-4-20, bldg tramway.

SHIELLS CANYON—Petroleum Sec. Co.'s Home Ranch 3, 3-3-19, dr gray sand 3540 ft.

BARDSDALE—Petroleum Sec. Co.'s Elkins 1, 7-3-19, dr sandy shale and conglomerate 5090 ft.

SESPE—Speik Oil Co.'s No. 1, 35-5-19, dr 300 ft.

SHIELLS CANYON — The Texas Co.'s Sheills 129, 4-3-19, sd 4812 ft; No. 130, dr sandy shale 2912 ft; No. 131, dr 2213 ft, lost circulation.

SOUTHERN CALIFORNIA

NEWHALL—Barnsdall's Rancho San Francisco 1, 26-4-17, rur.

ARTESIA—M. T. Bernstein's Millard 1, 25-3-12, td 5888 ft, redr at 3890 ft.

NO. LONG BEACH—Geo. L. Clayton's No. 1, 31-3-12, sd 6765 ft.

TORRANCE—Codri Oil Co.'s No. 1, 28-4-13, dr gray sand 3852 ft.

GARDENA—A. C. Edington's No. 1, boilers set.

TORRANCE—Eyer Pet. Corp.'s No. 1, 20-4-13, pumping water and some oil, td 3794 ft.

WILMINGTON — General's Terminal 1, td 2694 ft, wocs 11¾ at 2450 ft. Harbor Dr. Co.'s No. 1, 33-4-13, dr oil sand 3420 ft.

TORRANCE—Jas. S. Hull's No. 1, 20-4-13, dr shale 890 ft.

PUENTE—McVicar-Roods' Sentous 1, 6-2-9, dr sand and shale 1768 ft, dips 18 to 45 degrees. Numac Oil Co.'s Rowland 2, 14-2-10, td 2545 ft, bailing heavy oil and heavy mud.

PALOS VERDES — Pamaco Royalty Co.'s Burkhard 1, 2-5-14, foundation.

ROSECRANS—Republic Pet. Co.'s Trust 1, 18-3-13, td 1195 ft, wocs 16-in at 1195 ft.

DOMINGUEZ—West American Oil Co.'s Del Amo 1, 3-4-13, dr sand and shale, 8473 ft.

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NEWHALL—Yant Pet. Corp.'s Yant 5, 1-3-16, td 2022 ft, wocs 6⅝-in at 1672 ft; Yant 2, rur.

ORANGE COUNTY

Commander Oil Co.'s Mesa 1, 29-6-10, td 2121 ft, bailing heavy oil and water; Hillman-Long's Westheimer 1, 14-5-11, td 7701 ft, wocs 8⅝-in at 5585 ft; Geo. Terry's Gun Club 1, 17-5-11, dr shale 4473 ft.

SAN BERNARDINO COUNTY

Equitable Pet. Explor. Co.'s Barstow 1, 11-10-5, dr hard shale, 2347 ft. Tehama Pet. Co.'s Kraemer-Backs 2, 33-2-8, lcn; Pellissier 1, 4-3-8, lcn.

COLORADO

ARCHULETA COUNTY—Wm. E. Hughes Estate Fee 6, nw ne se, made 1448 bbls oil.

Wm. E. Hughes Estate Fee 7, ne se se 24-33n-2e, dr 600 ft.

O. A. Larrazola, Jr., Gonzales 1, se sw se 24-32n-1e, mim.

Oil City Petroleum Co. and Archuleta Oil & Gas Co., Reeder 1, swc Lot 5, 24-33n-2e, so in shale at 495 ft and dr ahead.

JEFFERSON COUNTY—Ruby Hill Oil Co. Braden 1, se se 24-4n-69w, dr 4446 ft.

PARK COUNTY—Glenridge Oil Co., Hills 1, csl se se 27-3s-64w, cemented cave at 4240 ft.

South Park Oil Co., State 1, se se sw 16-11s-75w, dr 4420 ft.

South Park Oil Co., LeBert 1, ne ne nw 21-11s-75w, cemented 15½ in csg at 60 ft. Completing water well.

YUMA COUNTY—Indian Territory Oil Co. Strangways, cnw sw 21-2s-43w, cemented 15½-in csg at 527 ft.

FLORIDA

HILLSBOROUGH COUNTY — Southern Pet. Co.'s Mizell & Williams 2, se ne 4-32s-21e, elev 120 ft, sd for csg 965 ft, base of Ocala lime.

JACKSON COUNTY—Mrs. Mamie Hammonds et al's Grandberry 1, sw ne 15-5n-9w, dr 350 ft.

LAKE COUNTY—Union Oil & Ref. Co.'s Gulf Expl. Co. 1, se sw 17-24s-25e, lcn abn at 265 ft (corrected depth). Oil Dev. Co. of Fla.'s Gulf Expl. Co. 1, se se 17-24s-25e, elev 120 ft, core sandy brown lime 3833 ft.

NASSAU COUNTY—St. Mary River Oil Corp.'s Bank of Hilliard 1, nw nw se 19-4n-24e, elev 110 ft, spd with cable tools.

PINELLAS COUNTY—Dr. Edw. A. Hill's W. J. Meyers 1, ne ne 2-27s-16e, lcn abn.

POLK COUNTY—Dr. Edw. A. Hill's Polk County Lbr. Co. 1, nw nw ne 32-25s-25e, dk.

KANSAS

BARBER COUNTY—Sinclair Prairie's Gentry 1, ne ne ne 1-33s-15w, lcn.

BARTON COUNTY—Davison et al's Birzer 1, sw se sw 22-17s-12w, ur 8-in csg 2815 ft. Ramsey et al's Hunt 1, nw nw nw 10-18s-11w, abd 3404 ft. Buchanan & Alexander's Langford 1, ne ne sw 14-20s-11w, td 3299 ft, 1320 bbls oil, comp. Schermerhorn Oil Co.'s Hunter 1, ne ne ne 29-18s-15w, td 3516 ft, est 38½M ft gas, killed gas. Wakefield & Johnson's Bumm 1, sw ne ne 22-19s-12w, dr 1930 ft. Rosespring Drlg. et al's Rick 1, sw sw sw 1-19s-11w, set 10-in csg, wocs. Brouk et al's Keil 1, se se ne 11-16s-15w, br.

BUTLER COUNTY—Ellis et al's Pettit 1-A, se se nw 21-28s-6e, dr 2800 ft. Sanford et al's Weaver 1, se se ne 11-28s-5e, abd 2800 ft. Rex & Morris' Olson 1, nw sw se 15-28s-6e, sd 1782 ft. McGinnis et al's Hinnen 1, ne ne sw 18-24s-4e, dr 1350 ft.

COWLEY COUNTY — Roth & Faurot's Guthrie 1, se ne nw 30-33s-8e, pb 2200 ft, 2000 gals acid, flowed 22 bbls in 1 hr. Wakefield et al's Daniels 1, se sw se 3-30s-3e, dr 2622 ft. Braden Prod. Co.'s Sparks 1, se se nw 35-33s-4e, sd 1687 ft. McKnabb's Community 1, cne nw 14-34s-3e, set 15-in csg 656 ft, co. Benedum & Trees' Carson 1, sw sw nw 8-30s-4e, dr 2028 ft.

DECATUR COUNTY—Winkler-Koch's Vessey 1, cnw se 26-3s-26w, brr.

EDWARDS COUNTY — Stanolind-Elwell's Donovan 1, cse se 14-25s-18w, rust 4055 ft.

ELLIS COUNTY—Jones Bros. & Carpenter et al's Solomon 1, se se sw 28-11s-19w, ur 6-in csg 3433 ft. Brunson & Ewers-Simpson's Gross 1, ne ne sw 29-14s-17w, td 3507 ft. Bridgeport and J. J. Hall's Madden 1, ne nw nw 26-15s-18w, dr 3010 ft. Tom Palmer's Schoenthaler 1, ne ne nw 31-12s-19w, abd 3875 ft. Harris & Haun et al's Schmeidler 1, se se sw 3-13s-17w, sd 2700 ft. Yarnell & Carlson's Phillips 1, nw nw se 2-14s-18w, rng 6-in csg 3334 ft. Rosespring et al's Union Pacific 1, ne ne ne 9-13s-20w, dr 3290 ft. Empire's Herl 1, se se se 22-15s-19w, rng 12-in csg 1142 ft. Twin Drlg. Co.'s Copeland 1, ne ne sw 26-14s-19w, dr 3015 ft. James Brouk et al's Jacobs 1, nw nw se 31-15s-16w, ru. Parrish & Demman's Walter 1, se sw se 14-13s-17w, rng 15-in csg 460 ft. Trigg et al's Armbrister 1, se se sw 6-11s-19w, dr 125 ft. Jones & Shelbourn's Gunther 1, se se sw 9-11s-19w, dr 110 ft. Vickers Pet. Co.'s Kraus 1, sw sw nw 22-14s-19w, dr 1125 ft. Twin Drlg et al's Schmidt 1, sw sw ne 22-15s-17w, ru. Bradley et al's Penny Wann 1, se se se 13-15s-20w, dr 600 ft. Empire's Samuelson 1, ne ne sw 31-11s-16w, lcn.

ELLSWORTH COUNTY—York State Oil Co.'s Koestle 1, nw nw se 12-17s-9w, lcn.

FINNEY COUNTY—Lone Star State Drlg. Co.'s Hamlin 1, sw sw ne 31-24s-34w, dr 2451 ft.

GRAHAM COUNTY—Vickers and Phillips' Hutton 1, ne ne se 29-8s-22w, dr 3122 ft. Noah & Young's Hills 1, nw se se 19-10s-21w, rig.

GREENWOOD COUNTY — McGinnis' Lampe 1, nw ne sw 26-24s-8e, spd.

HARVEY COUNTY—Harburney Oil Co.'s Scrag 1, nw nw se 24-22s-3w, fsg 2875 ft. Shawver's Judd 1, sw se ne 3-24s-2e, dr 400 ft.

HASKELL COUNTY—Kuhn Bros. et al's Nilson 1, sw sw se 21-28s-32w, set 10-in csg 604 ft, wocs. Helmerich & Payne's Meredith 1, csw 10-30s-33w, lcn.

KINGMAN COUNTY—Lauck et al's Prather 1, cse 18-27s-8w, dr 1980 ft. Oklahoma Oil Corp. et al's Reeves 1, nw nw nw 29-27s-5w, dr 2073 ft.

McPHERSON COUNTY — Empire's Cunningham 1, se se se 26-18s-1w, td 2832 ft, 800 ft oih 12 hrs. Johnson et al's Johnson 1, sw sw nw 33-17s-1w, sd 1275 ft. Hawkins et al's Ritikofer 1, ne ne se 2-20s-1w, rig.

NESS COUNTY — Continental's Thompson 1, ce½ e½ sw 13-18s-26w, dr 4457 ft. Newton Dev. Co.'s Tenny 1, nw nw se 19-18s-25w, br.

RENO COUNTY—Foraker et al's Hiett 1, se sw ne 34-24s-4w, sd 2948 ft. Rosespring et al's Swanson 1, ne ne nw 1-23s-5w, ru. Graham et al's Miller 1, ne ne se 36-25s-10w, br. Dickey Oil Co.'s Shepherd 1-A, ne ne nw 22-26s-9w, pb 4135 ft, dr 4148 ft.

RICE COUNTY—Gratton et al's Williams 1, sw sw nw 17-18s-7w, td 3363 ft. Gilmac Oil Co.'s Sargent 1, se se se 31-18s-6w, co 2240 ft. Dickey and Continental's Newkirk 1, ne ne sw 11-18s-7w, sd 3354 ft. Duwe & Schneider's Wright 1, ne ne ne 36-21s-7w, dr 3324 ft. Simpson & Noble et al's Pulliam 1, cs½ n½ ne 35-19s-8w, ur 8-in csg 2950 ft. Skiles et al's Stout 1, se se se 6-21s-9w, dr 2644 ft. Beardmore et al's Fuller 1, sw sw se 23-18s-7w, ur 8-in csg 2915 ft. Simpson-Noble & Stanolind's Bowman 1, sw sw nw 22-19s-10w, dr 2120 ft. Shell's Maughlin 1, ne nw se 11-20s-8w, td 3223 ft, to make dr stem test. Shell et al's Hafferman 1, cn½ n½ se 6-19s-9w, cored 2885 to 2892 ft.

ROOKS COUNTY—Murfin et al's Westhusin 1, ne ne se 12-6s-18w, dr 3165 ft. Skaer Oil Corp. & Reese's Dryden 1, ne ne ne 28-10s-17w, sd 2430 ft. Lester & Dean's Burtt 1, se se ne 29-10s-20w, dr 1640 ft. Shoemake's Stebbins 1, ne ne sw 26-7s-17w, set 16-in csg 380 ft, wocs. Helmerich & Payne's Bedard 1, cne 29-9s-19w, ru. L. C. D. Drlg. Co. et al's Westhusin 1, cne se 11-9s-17w, rig.

RUSH COUNTY—Pryor & Lockhart's Stegman 1, sw nw ne 11-16s-17w, dr 2335 ft. Rosespring et al's Jacobs 1, sw se nw 8-16s-17w, td 3604 ft, D&A. Boyle & Grossman's Wilson 1, ne ne ne 33-17s-19w, dr 2020 ft. National Ref. Co.'s Werth 1, nw ne ne 7-16s-18w, td 3572 ft, est 50 bbls oil per day.

RUSSELL COUNTY—Berry et al's Cook 1, ne ne se 19-11s-13w, co 3517 ft. Eisenhour & Shaffer's Humes 1, sw sw sw 6-14s-12w, dr 3379 ft Darby and Continental's Letsch 1, se ne nw 34-14s-13w, td 3265 ft, pb 2880 ft. Central Pet. Co.'s Furthmeyer 1, ne ne ne 28-14s-15w, td 3322 ft, D&A. Stearns & Streeter et al's John Hancock Insurance 1, se sw sw 31-12s-14w, td 3205 ft, D&A. Wakefield et al's Krug 1, ne nw sw 7-15s-14w, dr 2185 ft. Coralena Oil Co.'s G. M. Sellens 1, sw se sw 20-15s-13w, dr 2720 ft. Hartman & Blair's Johnston 1, nw nw nw 11-13s-14w, dr 190 ft. Lario O&G Co. et al's Steinert 1, nw nw sw 21-15s-15w, dr 326 ft. Reynolds' Frederickson 1, se sw se 6-13s-12w, td 3170 ft, pb 3040 ft, 2000 gals acid, no test. Hartman & Blair's McAllister 1, sw sw se 24-13s-15w, dr 2425 ft. Armer et al's Maier 1, ne nw ne 20-15s-14w, rig. Central Pet. Co.'s Benso "C" 1, se se sw 9-14s-15w, owdd, otd 3090 ft, rng 5-in csg.

SALINE COUNTY—James Brouk et al's Othelander 1, ne nw se 10-16s-3w, spd and sd.

SEDGWICK COUNTY—Dickey Oil Co.'s Ayers 1, sw sw nw 12-27s-2e, dr 3127 ft. Joe Aylward et al's Harrison 1, se se sw 23-25s-2e, dr 1795 ft. Lauck's Parke 1, se se ne 17-25s-2e, dr 2800 ft.

SEWARD COUNTY—Helmerich & Payne's Hyde 1, csw 14-33s-34w, mim.

SUMNER COUNTY—Wilcox O&G Co. et al's Hess 1, se se nw 13-33s-2w, cored 4587-4590 ft. Matthews & Derrington's Berry 1, nw nw se 14-35s-1e, dr 2976 ft. Wilson et al's Clark 1, csl nw 15-35s-1w, dr 4244 ft. Craft & Wilson's Nevitt 1, ne nw ne 36-32s-2e, ur 6-in csg 3185 ft. Pryor & Lockhart et al's Knowles 1, sw sw sw 30-30s-1e, dr 3682 ft. Texas Co.'s Reed 1, ne se se 11-31s-1w, fsg 564 ft.

TREGO COUNTY — Central Commercial's Wagg 1, nw nw se 17-13s-21w, dr 4170 ft. Hall et al's Deines 1, se se se 12-13s-24w, dr 815 ft.

WOODSON COUNTY—Foster et al's Timm 1, se nw ne 36-25s-13e, rng 5-in csg 1420 ft. Sheedy's Abbott 1, ne ne se 16-25s-14e, dr 800 ft. Sheedy et al's Fulhage 1, sw se sw 27-25s-14e, spd. Lester et al's Weidie 1, ne ne se 17-25s-14e, sd 675 ft.

SOUTH LOUISIANA

ACADIA PARISH—Magnolia's Homeseekers 1, Esterwood prospect, sec 54-10s-1w, dr shale 8654 ft.

ALLEN PARISH—Humble's J. A. Bel 2, Reeves prospect, sec 28-6s-7w, ru.

CALCASIEU PARISH—Buhler Oil Co.'s Faist 1, 990 ft se of No. 1, sec 26-8s-10w, dr shale in sdtr hole 3010 ft.

CAMERON PARISH—Magnolia's Hebert 1, Big Lake, sec 13-12s-9w, dr shale 8085 ft.

EAST BATON ROUGE PARISH—Cavalier Oil Co.'s Vignes 1, ne of Nettie, sec 40-8s-2e, ru.

EAST FELICIANA PARISH—East Feliciana Oil Corp.'s West & Duding 1, sec 37-1s-1w, ru.

IBERIA PARISH—Texas Co.'s State Fausse Point 2, Fausse Point, sec 35-11s-8e, woc 1261 ft.

JEFFERSON DAVIS PARISH—Shell's Lacassine 1, Hayes prospect, sec 20-11s-5w, dr shale 9825 ft. Stanolind's Calcasieu National Bank 1, South Jennings prospect, sec 15-10s-3w, spudded. Strake Pet. Corp.'s Miller Estate 1, Woodlawn prospect, sec 7-9s-5w, dr shale 5055 ft.

ST. BERNARD PARISH—John Cartwright's Nunes 1, e of New Orleans, sec 10-13s-12e, dr shale 1500 ft.

ST. JAMES PARISH — Shell's Colonial Sugar 1, Convent prospect, sec 5-12s-5e, dr salt 7522 ft.

ST. LANDRY PARISH—Limited Oil Co.'s Miller Estate 1, Cankton prospect, sec 47-8s-4e, dr shale 8675 ft.

ST. MARTIN PARISH—Texas Co.'s Lake Mongouloi 2, Lake Mongouloi salt dome, sec 14-10s-9w, dr shale 5682 ft; Same operator's St. Martin Land Co. 8, Henderson prospect, sec 9-8s-7e, pb 7676 ft, sdtr.

TERREBONNE PARISH—Humble's Continental Fur Co. 1, Bayou Terrebonne prospect, sec 30-17s-14e, dr shale 1756 ft. John P. Bech's Realty Owners 1, Houma Townsite prospect, sec 103-17s-17e, ru.

VERMILION PARISH—Continental's Hebert 1, Abbeville prospect, sec 20-12s-3e, dr sand 8881 ft. Del Shel Exploration Co.'s Landry 1, Jefferson Island dome, sec 1-13s-4e, dr shale 2000 ft.

NORTH LOUISIANA

BIENVILLE PARISH — Rondeau et al's Locke 1, ne nw ne 9-15n-10w, elev 180 ft rur. Walters et al's Davis 1, 3-16n-9w, dk.

BOSSIER PARISH—Bowman-Tidwell's Nattin 1, 15-22n-14w, sd 1408 ft. Producers O&G Co.'s J. A. Skannal Est 1, sw sw 22-17n-12w, spd 15¼-in csg 90 ft dr 400 ft. Triangle Drlg. Co.'s H. L. Skannal 2, sw se 23-17n-12w, rur. United Gas Pub. Serv. Co.'s Skannal Est. D-1, 22-17n-12w, dr 2905 ft.

CADDO PARISH — Pyramid O&G Co.'s Wheeler A-1, 16-18n-16w, elev 250 ft pb to 4850 ft swabbed sw, recemtd bot of hole tested sw again, sd old td 5210 ft. J. B. Hutchinson, Tr's Colquitt 1, 28-16n-13w, mim. Forbing-Persian Oil Co.'s Cupples 1, 24-16n-13w, rur. W. K. Henderson et al's Fee 1, 5-19n-15w, top Blossom 1885 ft dr 1915 ft.

CATAHOULA PARISH — Ray McDermott's La. Cent. Lbr. Co. 1, nw nw 15-10n-5e, rur.

CALDWELL PARISH—Critchett & Wood's La. Cent. Lbr. Co. 1, 18-11n-3e, sd 1310 ft. Scott et al's Taylor 1, 20-14n-4e, dk.

CLAIBORNE PARISH—Sugar Creek Synd. et al's Darrett 2, 31-20n-5w, elev 324 ft, hole clean dr 7325 ft hd sand. E. T. Oakes et al's Patton Est 2, 1-20n-5w, dr 3820 ft.

DE SOTO PARISH—W. F. Hyde's Ramsey 1, se nw 36-11n-11w, owdd td 210 ft. Tarbud Oil Co.'s Caddo Realty Co. 1, nwc 2-13n-16w, coring 3148 ft. Jas. E. Carlson's Garland 1, nw nw 7-14n-14w, dk.

FRANKLIN PARISH—S. C. Jensen's Bailey 1, 12-11n-6e, sd 1435 ft.

GRANT PARISH—Tri-State Dev. Co.'s Ethridge 1, ne ne 19-7n-3e, rur.

JACKSON PARISH—Zeigen et al's La. Cent. Lbr. Co. 5, ne nw 13-14n-2w, owdd 1770 ft.

LINCOLN PARISH — Lide & Greer's S. Gardner 1, 10-17n-4w, coring 6175 ft.

MOREHOUSE PARISH—Henry E. Rondeau et al's Clark 1, se ne 10-20n-7e, rur, elev 90 ft.

MOREHOUSE PARISH—Henry E. Rondeau son's Moffet 1, sec 19-10n-10w, dk & mir.

RAPIDES PARISH—Texas Co.'s Weil 1, 53-1s-2e, coring 5653 ft.

RED RIVER PARISH—I. J. Allen's Franklin Realty Co. 1, ne ne 20-11n-9w, arr abn dry hole td 3190 ft. H. D. Conley et al's Long-Bell 1, ne ne 19-13n-9w, fsh 1900 ft. T. B. Shaw et al's Teekel 1, 34-13n-10w, coring 2620 ft.

SABINE PARISH—Keen et al's Long-Bell 1, 5-8n-13w, rur. Whitehurst et al's Whitney Corp. 1, nw ne 8-9n-13w, cemtd 9⅝-in csg 3234 ft. A. H. Tarver's Baker 2, 36-8n-12w, fsh 5225 ft. Claude H. Smith et al's Whitney Corp. 1, 19-10n-13w, sd 3053 ft.

TENSAS PARISH—H. M. Jones' Chicago Mill & Lbr. Co. 1, nw sw nw 29-12n-10e, base Jackson 776 ft 8¼-in csg 776 ft td 779 ft. Clara Nook Plant. 1, nw sw 33-12n-10e, rur.

UNION PARISH—Lent, Sears & Bocher's Frost Lbr. Co. 1, nec 27-21n-1e, ran electrical tester, sd 4545 ft (Travis Peak).

WEBSTER PARISH—Ohio Oil Co.'s R. L. Holloway 6, ne sw 23-21n-10w, elev 210 ft coring 7980 ft. Red Hawk Oil Co.'s Baker 1, se nw 9-23n-9w, spd. J. L. Edwards' Hooper 1, 8-17n-9w, sd 3016 ft.

MICHIGAN

ALPENA COUNTY—C. W. Teater's Nevins 1, 32n-6e-18, dr 900 ft.

CLINTON COUNTY—Petroleum Oil Exploration Co.'s Cable 1, 5n-2w-12, dr 2600 ft.

CHIPPEWA COUNTY—F. D. Barton's Kretan 1, 41n-7e-17, dr 700 ft.

CRAWFORD COUNTY — T. F. Caldwell, Inc.'s Huston 1, 25n-1w-7, dr 1400 ft.

GLADWIN COUNTY—T. F. Caldwell, Inc.'s Parker 1, 18n-2w-21, dr 4000 ft. Goll, Graves, Mechling's Oard 1, 18n-1w-25, sd 1090 ft; State 1, 19n-2e-30, sd 1300 ft; Wixom 1, 17n-1w-35, dr 1230 ft.

GRATIOT COUNTY—C. W. Collin's Tomlin 1, 11n-4w-27, csg 5-in 3198 ft, sd. McPherson Company's Sharrar 1, 11n-4w-11, sd 3350 ft, bw.

HURON COUNTY—Wallace Markle's Opaka 1, 15n-11e-4, sd 3007 ft.

IONIA COUNTY—Terry Dale, Inc.'s Tew 1, 6n-7w-12, csg 8-in 2844 ft. Grank Lyon's Geiger 1, 8n-8w-29, fsg 2880 ft.

MONTCALM COUNTY — John Marcurio's Whitcomb 1, 12n-7w-7, Dn lime 3467 ft, dr 3572 ft. Jetter Oil Co.'s McCracken 1, 9n-5w-6, csg 5-in 3060 ft, Dn lime 3092 ft, dr 3102 ft. Durham & Jones' Towle 1, 11n-8w-15, dr 3000 ft.

TUSCOLA COUNTY — V. R. Kirkham's Boyce 1, 14n-7e-24, Dn lime 2604 ft, dr 2748 ft.

MISSISSIPPI

CLAIBORNE COUNTY — Claiborne O&G Co.'s Crawford 1, 6-13n-4e, elev 115 ft, dr 820 ft shale.

JONES COUNTY—Snow-Black Pet. Co.'s Fox 2, 31-7n-12w, dr 3010 ft.

LAMAR COUNTY—Snow-Black Pet. Co.'s Miller et al 1, ne ne sw 3-4n-15w, sd 1750 ft.

WILKINSON COUNTY—T. S. Stoneman et al's L. T. Ventress 1, 38-2n-3w, lcn.

MONTANA

DANIELS COUNTY—Whitetail Oil & Gas Co. operation in nw ne nw 10-36n-50e, resuming at 1850 ft.

FERGUS COUNTY—H. C. Rowland's Government 3, cel ne sw 18-17n-24e, dr 409 ft.

Judith Operating Co. Government 2, w nw ne 35-22n-17e, dr 1023 ft.

GLACIER COUNTY—L. P. Jackson and Stanley Gray's Dunbar 1, nw se nw 22-34n-7w, dr 2669 ft.

PONDERA COUNTY—Texas Co. 1 Unit 1, cnw 32-31n-5w, dr 2118 ft.

Gordon Campbell Hughes 1, nw ne nw 12-30n-4w, dr 617 ft.

TOOLE COUNTY—Boyd Kyle 1, cse se 3-37n-1e, dr 310 ft.

NEW MEXICO

LEA COUNTY—Cockburn & Rowan-Nichols Oil Co.'s H. G. Mattern 1, c sw se 7-22s-37e, elev 3426 ft, dr 3100 ft. C. & G. Oil Co.-The Texas Co.'s Ellen Weir 1, c ne ne 14-20s-37e, elev 3564 ft, top anhydrite 1348 ft, td 3893 ft, used 2500 gals acid, tests 10 bbls oil and 1,000,000 ft gas daily. Conoco & California Co.'s E. M. Elliott 1, c sw sw 22-22s-37e, elev 3347 ft, flows 40 bbls daily, fsh tools, td 3539 ft. Culberson, Erwin & Stovall's J. B. Humphreys-Humble 1, c se sw 3-25s-37e, elev 3135 ft, top anhydrite 1030 ft, top salt 1124 ft, dry and abd, td 3702 ft. Gulf Oil Corp.'s S. J. Carr 1, c nw sw 3-24s-37e, elev 3267 ft, dr by bit, td 900 ft; L. M. Buffington 1, c nw sw 13-25s-37e, elev 3091 ft, dr 2100 ft; S. T. Burk 1, c ne ne 28-19s-37e, elev 3602 ft, td 3936 ft, sd after swabbing trace oil and little gas; E. A. King, 1, c sw nw 28-21s-37e, elev 3469 ft, dr 3420 ft; F. C. King 1, c sw nw 5-23s-37e, elev 3371 ft, dk; Frona Leck 1, c nw ne 14-21s-36e, elev 3578 ft, lime pay 3760-3875 ft, used 1000 gals acid, completed, flowed 223 bbls 14 hrs via tubing and 1,475,000 ft gas; W. T. McCormack 1, c ne ne 32-21s-37e, elev 3464 ft, dr 3360 ft; A. B. Reeves 1. c nw sw 29-20s-37e, elev 3529 ft, sul w at 3852-56 ft, td 3859 ft, pb to 3845 ft, shot 100 qts nitro at 3770-3840 ft, testing; J. A. Stuart 1, c sw ne 10-25s-37e, elev 3120 ft, cem 9⅝ cas 2475 ft. Humble's W. B. Farrell 1, c sw se 22-22s-37e, elev 3341 ft, dr 2675 ft; G. B. Hadfield 1, c nw se 21-25s-37e, elev 3082 ft, td 3201 ft, est 10 bbls oil per hr; J. T. Lanehart 1, c ne sw 21-25s-37e, elev 3068 ft, cem 7-in cas 2994 ft, td 3097 ft. Landreth Prod. Corp.'s E. H. Grizzell 1, c se sw 5-22s-37e, elev 3437 ft, cem 7-in cas 3820 ft, td 3830 ft. Liberty Oil & Drlg. Co.'s J. F. Hair-Repollo 1, sw sw se 24-24s-37e, elev 3157 ft, sdo 3702 ft. Magnolia's E. A. Carson 1, c nw sw 28-21s-37e, elev 3463 ft, top salt 1348 ft, dr 1750 ft; Will Cary 1, c ne se 21-22s-37e, elev 3361 ft, top anhydrite 1108 ft, dr 2650 ft. Maljamar O&G Corp.'s M. E. Baish 6, c nw se 21-17s-32e, Maljamar area, elev 4028 ft, td 4129 ft, pb to 3950 ft, used 2000 gals acid, est 75 bbls daily. Ohio Oil Co.'s W. H. Turner 1, c ne se 29-21s-37e, elev 3477 ft, cem 6⅝-in cas 3602 ft, dr 3610 ft. N. G. Penrose & Rowan-Nichols Oil Co.'s Will Cary-Humble 2, c ne sw 22-22s-37e, elev 3345 ft, flows 40 bbls daily via tubing, td 3570 ft; Cary 3, c se nw 22-22s-37e, elev 3364 ft, sd 1150 ft; Cary 4, c sw nw 22-22s-37e, sd 1146 ft. Plains Prod. Co.'s R. L. Mosely-Repollo 1, c nw se 34-24s-37e, elev 3168 ft, sul w at 3550-3551 ft, pb to 3530 ft, flows 12 bbls daily, sd for shot; Geo. Smith-Humble 1, c se se 4-25s-37e, elev 3174 ft, td 3750 ft, sdo. Repollo Oil Co.'s M. J. Boyd 1, sw sw nw 23-22s-37e, elev 3337 ft, top anhydrite 1090 ft, salt series 1270-2348 ft, top lime 2459 ft, pay 3636-3700 ft, flows 75 bbls daily after 5000 gals acid; J. T. Lanehart 1, se nw nw 28-25s-37e, elev 3028 ft, dr 3165 ft; Frances Stuart 1, se nw se 10-25s-37e, elev 3114 ft, dr 1100 ft. Samedan Oil Corp.'s Marshall 1, c sw nw 12-21s-36e, elev 3540 ft, dr 2500 ft; C. U. Parks 1, sw sw sw 14-22s-37e, elev 3339 ft, flows 70 bbls daily, dr 3710 ft. Skelly Oil Co.'s J. V. Baker 2, c nw nw 27-22s-37e, elev 3341 ft, dr 800 ft; Ellen Sims 1, c nw se 3-23s-37e, elev 3300 ft, dk; F. S. Stuart 1, c ne nw 15-25s-37e, elev 3107 ft, rur. Sun Oil Co.'s B. A. Christmas 1, c nw sw 12-20s-37e, lcn abd; B. T. Lanehart 1, c se se 20-25s-37e, elev 3042 ft, top anhydrite 971 ft, top salt 1145 ft, fsh dp 2309 ft; A. D. Richards 1, c ne se 6-23s-37e, elev 3376 ft, base salt 2610 ft, td 3798 ft, sd to pump, td 3798 ft. The Texas Co.'s E. L. Alexander 1, c lot 3, or c nw sw 7-21s-37e, elev 3504 ft, dr 2500 ft; W. T. Lanehart 1, c ne¼ 29-25s-37e, elev 3031 ft, top anhydrite 965 ft, base salt 2335 ft, gauged above 100,000,000 ft dry gas at 2770 ft, drl plugs, td 3161 ft. Tide Water's Anna Walden 1, c se ne 21-22s-37e, elev 3352 ft, dr 2300 ft.

OKLAHOMA

ATOKA COUNTY—Riverland O&G Co.'s Jones 1, sw sw ne 4-3s-9e, dr 2136 ft. Malarnee et al's Ranch 2-A, cse se 35-2s-13e, owdd, otd 3136 ft, dr 3230 ft. Prairie Investment Co.'s Cobb 1, sw ne nw 19-3s-11e, rum.

BECKHAM COUNTY—Jo-Gail Drlg. Co.'s Gilliland 1, cne ne 33-8s-26w, cellar.

CARTER COUNTY—Carter et al's Leon Voorhees 1, cse sw 34-5s-2w, dr 5742 ft. Hammond's Lile 1, sw se se 8-5s-1e, dr 285 ft.

COAL COUNTY—Shell's Hill 3, se se nw 30-3n-10e, td 6457 ft. Sinclair Prairie's Culver 1, ne ne sw 16-1n-8e, lcn. Mitchell's Quiett 1, ne nw sw 35-1n-8e, mit.

COTTON COUNTY—English Drlg. Co.'s Wilson 1, nw nw se 7-4s-11w, sd 1514 ft.

GARFIELD COUNTY—Sherry et al's Hoken 1, nw nw sw 32-20n-4w, abd 6276 ft. Stanolind-Amerada's Brunken 1, sw sw ne 32-23n-4w, dr 6096 ft.

GARVIN COUNTY—Carter et al's Wood 1, nw sw se 5-4n-3e, sng csg 3005 ft. McElreath & Suggett's Lasater 1, se se sw 2-2n-1w, spd.

HUGHES COUNTY—Phillips' Eberle 1, ne ne sw 12-5n-9e, dr 5460 ft. Sivils et al's Montgomery 1, nw sw nw 7-9n-9e, ur 3245 ft. Blackwell O&G Co.'s Long 1, se ne nw 29-9n-9e, dr 1297 ft. Sinclair Prairie et al's Wilkey 1, sw sw sw 23-9n-8e, dr 1967 ft.

JACKSON COUNTY—Jackman's Fee 1, sw sw sw 27-1s-24w, fsg 2685 ft. Universal Oil Co.'s Briscoe 1, nw sw ne 36-1s-20w, sd 3004 ft. John Dickson et al's Wright 1, ne nw se 19-1n-19w, dr 1000 ft.

JEFFERSON COUNTY—Campbell's Trout 1, se ne ne 6-8s-7e, sd 2560 ft. Pearson et al's Douthitt 1, ne ne ne 24-6s-9w, rur.

KAY COUNTY—Allen and Texas Co.'s Fulton 1, se se se 18-27n-4e, dr 1185 ft.

KIOWA COUNTY—Beeler & Klein's Parrish 1, se se nw 3-6n-15w, ru. Atlantic's Ta-Home 1, ne nw ne 24-7n-16w, dr 1243 ft. De-Bolt et al's Burnett 1, nw se ne 30-7n-20w, lcn.

LE FLORE COUNTY—McGraw et al's Tidwell 1, cnw se 17-3n-22e, ur 10-in csg 1750 ft.

LINCOLN COUNTY—Amerada et al's Zimmerman 1, sw sw ne 10-12n-5e, dr 2655 ft. Mid-Continent's Hillman 1, sw se ne 29-13n-6e, rur.

LOVE COUNTY—Sinclair Prairie's Stockton 1, se se sw 26-6s-2w, td 8556 ft, reaming core hole. Amerada-Stanolind's Westheimer & Daube

1, sw se sw 27-6s-2e, td 7363 ft, prep to swab.

McCLAIN COUNTY — Arab Pet. Corp.'s Autry 1, nw nw nw 16-7n-3w, td 8665 ft, hole caving, cement, wocs.

McINTOSH COUNTY—I. T. I. O. Co.'s Toncred 1, sw nw se 9-9n-14e, pb 2731 ft, 3 shots 2704-2730 ft. Dieckman's McIntosh 1, se se se 4-12n-17e, sd 130 ft.

NOBLE COUNTY—Continental's Pruitt 1, nw se sw 19-20n-1w, td 5142 ft, pb 5115 ft, D&A. Stanolind-Amerada's Gilham 1, ne se se 14-22n-1e, rig.

OKFUSKEE COUNTY—Champlin Ref. Co.'s Thompson 1, sw sw nw 7-13n-8e, fsg. Amerada-Stanolind's Wells 1, sw sw nw 7-11n-7e, td 4459 ft, Halliburton test.

OKLAHOMA COUNTY—Hollenbach et al's Cooper 1, nw nw ne 15-11n-1e, sd 6375 ft. O'Shaughnessy, Inc.'s Berlowitz 1, se sw ne 9-12n-3w, dr plug.

OSAGE COUNTY—Elfred's Beck 1, se se ne 6-23n-7e, abd 2640 ft. Midco et al's 1, nw nw se 11-23n-6e, caving at 2863 ft. Champlin Ref. Co.'s 1, sw sw ne 32-25n-6e, abd 2935 ft. Gray & Tolson's 1, sw sw ne 33-25n-7e, dr 750 ft. Stoner & Miller's 1, nw ne sw 18-22n-8e, rust.

PAYNE COUNTY — Amerada-Stanolind's Pratt 1, se se se 29-19n-5e, dr 2275 ft. Denver Prod et al's Pratt 1, nw nw nw 20-18n-3e, dr 3566 ft.

PITTSBURG COUNTY—Oklahoma District Oil Co.'s Beeler 1, ne ne sw 7-7n-14e, rog.

PONTOTOC COUNTY—Sandback et al's Sands 1, ne ne ne 20-3n-5e, dr 770 ft. Southard & Miller's Wilson 1, nw se sw 26-4n-5e, spd and sd.

POTTAWATOMIE COUNTY — Wofford Bros.' Sewell 1, sw sw se 14-7n-3e, rig.

SEMINOLE COUNTY—Tom Phillips and Kimraw Drlg. Co.'s Chemperney 1, se se nw 7-6n-7e, rig. John Graham et al's Castleberry 1, sw se nw 8-5n-7e, mit. Amerada-Stanolind's Alexander 1, ne nw ne 14-9n-7e, pb 3434 ft. Twin State's Hamm 1, se se sw 24-10n-7e, lcn.

STEPHENS COUNTY—Endicott et al's McFatridge 1, nw nw sw 11-3s-9w, sd 1372 ft. McCasland's Parker 1, ne ne sw 2-1n-6w, sd 2518 ft.

TILLMAN COUNTY—Gulf's Wearmouth 1, se nw se 31-1s-16w, sd 4533 ft. Johnson, Young & Mitchell's Donahoe 1, se nw nw 7-4s-17w, dr 1368 ft. Gulf et al's McWilliams 1, nw sw sw 15-3s-17w, rig. Bernheim's Tate 1, ne ne nw 16-1s-19w, lcn. Shirley Clum et al's Moriele 1, nw nw se 16-4s-14w, spd.

EAST TEXAS

ANDERSON COUNTY—Gulf Oil Corp.'s M. J. Ross 1 (54.7-ac), Robt. Erwin sur, Camp Hill area, elev 487 ft, top Georgetown lime 5452 ft, cem 8⅝-9-in cas 2144 ft, td 5476 ft; to dd to Trinity. Tide Water & Seaboard Oil Corp.'s J. B. Edens 15 (988.6-ac), Samuel Snider sur, Cayuga field, Trinity sand test, rur.

BOWIE COUNTY—Fay T. Chew et al's B. Barkinson 1 (90-ac), J. Parkman sur, lcn. Ben J. Russell et al's O. A. Hall 1, J. W. Weaver sur, 9 mi sw New Boston, elev 316 ft, top Annona chalk 1646 ft, sd 3424 ft. Westmount Oil Co. et al's R. N. Phillips 1 (115-ac), J. N. Hancock sur, 10 mi n Oak Grove, elev 340 ft, sd 750 ft. Woodley & Bentley's J. D. Lumpkin 1 (245-ac), John McDermott sur, 1¼ mi sw Dalby Springs, elev 290 ft, Annona chalk 1665-2090 ft, sd 3260 ft.

CASS COUNTY — American Liberty Oil Co.'s Maxcy 3, elev 264 ft, top Annona 1950 ft, top Red Beds 3485 ft, top anhydrite 5081 ft, top massive anhydrite 5665 ft, oil pay 6017-6044 ft, i.p. 618 bbls oil 24 hrs ¼-in choke, tp 725 lbs and c.p. 275 lbs; Maxcy 4, elev 294 ft, Annona chalk 1982-2750 ft, dr 4500 ft. McElvain & Beckett's D. A. Maxcy 1, B. J. Murray sur, elev 235 ft, top Red Beds 3435 ft, top anhydrite 5066 ft, massive anhydrite 5333-5580 ft, top Hill 5728 ft, top Gloyd 5844 ft, dr 5900 ft. Magnolia (was R. W. Norton, Tr.'s), L. A. Haywood 2 (440-ac), P. Evans sur, elev 255 ft, Annona chalk 2014-2485 ft, top Red Beds 3422 ft, top anhydrite 5078 ft, massive anhydrite 5243-5692 ft, top Hill sand 5696 ft, tested 16 bbls per hr on ⅛-in choke, td 6049 ft. Marathon Oil Co.'s R. P. Willis 1, S. F. & I. W. sur, rig. The Texas Co.'s E. E. Hall 1 (60-ac), Jas. Young sur, elev 299 ft, top Annona chalk 2050 ft, top Red Beds 3477 ft, top anhydrite 5110 ft, top massive anhydrite 5385 ft, tested 1680 bbls 24 hrs 1in choke, td 6105 ft. United Production Corp.'s Eva Fields 1 (61¾-ac), John Collum sur, elev 252 ft, top Annona chalk 1948 ft, top anhydrite 5070 ft, top massive anhydrite 5350 ft, est 44 bbls per hr ½-in choke, td 6050 ft; Fields 2, elev 268 ft, Annona chalk 1991-2458 ft, top Red Beds 3470 ft, top anhydrite 5097 ft, top massive anhydrite 5363 ft, tested 20 per hr ½-in choke, td 6052 ft; Fields 3, elev 272 ft, Annona chalk 2020-2514 ft, top red beds 3495 ft, top anhydrite 5102 ft, top massive anhydrite 5372 ft, dr 5700 ft; F. S. Simpson 1 (160-ac), Jas. Young sur, elev 299 ft, top Annona chalk 2048 ft, top red beds 3545 ft, dr 5000 ft; J. T. Stewart 1 (49-ac), John Collum sur, elev 231 ft, base Annona chalk 2520 ft, top red beds 3423 ft, top anhydrite 5060 ft, top massive anhydrite 5330 ft, dr 5900 ft.

CHEROKEE COUNTY—Humble's Sam D. Goodson (55.42-ac), Isaac Reynolds sur, 1½ mi ne Ironton, elev 428 ft, top Woodbine series 4822 ft, tested sw, dry and abd 5540 ft. T. J. Wood et al's J. E. Huggins 1 (80-ac), Levi Jordan sur, 2 mi sw Rusk pool, dr 310 ft.

COLLIN COUNTY — Port Bolivar O&R Co.'s O. G. Durning-Clarkston 1-A (140-ac), Wm. Creager sur, Pat. 1193, elev 722 ft, co 3866 ft.

FRANKLIN COUNTY—Lucey Pet. Co. et al's A. W. Crawford 2 (25-ac), O. James sur, elev 371 ft, Pecan chalk 1597-1778 ft, top Georgetown lime 3471 ft, dr 3600 ft.

FANNIN COUNTY—E. V. Abernathy and A. F. Carter's G. D. Galloway 1 (320-ac), W. M. Rice sur, Georgetown lime series 1697-2203 ft, dr 2455 ft. L. P. Kean et al's R. L. & W. M. Kelley 1 (160-ac), Wm. Kelley sur, top Georgetown lime 2530 ft, sd 2880 ft.

FALLS COUNTY—J. Edward Mills et al's Sam Grucholski 1 (40-ac), Dennis Herold League, 5 mi sw Kosse, elev 521 (est) ft, top Pecan chalk 2114 ft, dr 2440 ft.

GRAYSON COUNTY — Olson Drlg. Co.-James H. Gardner et al's SW Life Insurance Co. 1 (160-ac), J. C. Jamison sur A-865, 3 mi n Pottsboro, elev 767 ft, top Sylvan shale 4870 ft, Viola lime 4901-5096 ft, tf 5890 ft, pb to 5550 ft, fsh 8 jts pipe. Port Bolivar O&R Co.'s Creed Taylor 1 (160-ac), J. Fitzhugh sur, 3 mi se Gunter, sd 3931 ft.

HOUSTON COUNTY—Branch et al's P. S. Griffiths 1, Frank Johnson sur, 3 mi sw Crockett, lcn. Ellison, McBride et al's J. E. Bean 1 (40-ac), Eli Steadman sur, 1¼ mi nw Grapeland, elev 482 ft, circulating to fill cavity, td 4034 ft.

KAUFMAN COUNTY—J. M. Scott & J. B. Woodside's E. Robinson 1 (80-ac), A. Chirnio sur, 2 mi w Scurry, top Austin chalk 1200 ft, sd 1846 ft. Colton & R. P. Lester's Barrow Bros. 1 (40-ac), J. D. Taylor sur, 8 mi ne Elmo, Trinity sand test, rur.

LAMAR COUNTY — Barrett, Saloman & Brooks' Haynes-McCuistion 1 (25-ac), A. W. Wright sur, 4 mi ne Garrett Bluff, elev 443 ft, Georgetown lime 275-738 ft, top Paluxy series 739 ft, sd 1900 ft. J. A. Forester et al's J. S. Woodward 1 (18¾-ac), J. W. Woodward sur, 1½ mi e by s of Minter, elev 402 ft, top Georgetown lime 2256 ft, Paluxy sand with trace gas 3060-3144 ft, top anhydrite 3735 ft, base hard anhydrite 4075 ft, broken to 4105 ft, sd 4516 ft.

LIMESTONE COUNTY—Dan H. Daugherty et al's Sallie Welch 1 (94-ac), Pedro Varella sur, 4 mi w Groesbeck, Austin chalk 2350-2650 ft, top Woodbine series 2890 ft, td 3158 ft, set liner to acidize. C. F. Lytle et al's J. L. Thompson 1-T (141-ac), w side Mexia field, elev 459 ft, cem 7-in cas 6002 ft, td 6065 ft, tested sw with show gas, pb to 6059 ft.

NAVARRO COUNTY—E. M. Thomason & Co., Inc.'s Estes Bros. 2 (58.2-ac) Wm. Gilbert sur, 1 mi e Roane, top Austin chalk 1504 ft, sd 2200 ft.

RED RIVER COUNTY—J. S. Abercrombie Co.-Harrison Oil Co.'s Southern Pine Lumber Co. 1 (393.37-ac), D. D. Bruton sur, 12 mi ne Clarksville, elev 407 ft, Georgetown lime 665-1020 ft, top anhydrite 1744 ft, dr 2000 ft. Annona O&G Co.'s Leo & Otto Roberts 1 (200-ac), Jas. Bankston sur, 2 mi ne Annona, elev 396 ft, Pecan chalk 40-380 ft, sd 725 ft. R. H. Manning and Texfornia Co.'s Hocker-Hughes 1 (80-ac), MEP&P Ry. sur No. 642, 6 mi sw Lydia, sp and sd.

RUSK COUNTY—Pure Oil Co.'s W. H. Faulkner 1 (60-ac), Wm. Elliott sur, 5 mi e Mount Enteprise, Trinity sand, or 8500-foot test, elev 563 ft, Pecan chalk 2650-2890 ft, show gas when cut through fault at 2599-2609 ft, Austin chalk 3286-3450 ft, top Georgetown lime 3446 ft, stringer of anhydrite 5320-5325 ft, top anhydrite 5707 ft, dr lime 6285 ft. DeArman & Son's A. Talliaferro 1 (50-ac), T. L. Willshire sur, 5 mi w Henderson, dr 3550 ft.

TITUS COUNTY—Jule Alford, Tr. et al's J. E. Fry 2 (47.48-ac), Isaac P. Stern sur, about 1200 ft ne Fry 1, jkd test, elev 333 ft, dk. Hollandsworth Drlg. Co.'s A. O. Brown 1 (52/100-ac), c lot 1, blk 41, Talco townsite, elev 377 ft, dk. Jones & Shelburne's Hazelwood 1 (10-ac), I. P. Stern sur, elev 342 ft, dk. Humble's M. B. Groves 1 (82.9-ac), Ben Jones sur, elev 309 ft, Pecan chalk 1591-1733 ft, Eagleford shale 2862-3240 ft, top Woodbine 3240 ft, top Red Beds 3590 ft, top Georgetown lime 3991 ft, temp abd, td 4492 ft. W. P. Luse et al's W. T. Sullivan 1 (4-ac), M. V. Delgado sur, rig. Magnolia's C. M. Carr 1 (70-ac), M. V. Delgado sur, elev 371 ft, Pecan chalk 1634-1790 ft, top Austin chalk 3010 ft, Georgetown lime 3952-3979 ft, cut fault at 3979 ft, or top Fredericksburg shale, top Paluxy sand-lime pay 4195-4248 ft, flows 5 bbls per hr, run tubing. B. C. Morrison et al's Lewis Sanders 1, c lot 1, blk 30, Talco townsite, elev 371 ft, dk. Nivla Oil Corp.-Sutton & Hawkins' J. N. Kelley 1, nec 15.76-ac lse, J. Salmon sur A-506, elev 348 ft, heavy flow water, td 1009 ft. Sanders & Murchison (was Nemo Oil Co.'s) Talco Independent School 1 (5-ac), I. P. Stern sur, elev 372 ft, Pecan chalk 1665-1860 ft, Austin chalk 2451-2481 ft, Woodbine series 3024-64 ft, cut fault at 3041 ft, top Red Beds 3138 ft, top Georgetown lime 3440 ft, Paluxy series 4187-4337 ft testing. Haynes B. Ownby Drl. Co. et al's Joe Easterling 1, c lot 6, blk 16, Talco townsite, elev 361 ft, Pecan chalk 1628-1785 ft, top Red Beds 3580 ft, cut fault at 4000 ft, coring 4275 ft. Red Iron Drl. Co.-Dean Bros. & Adkisson's A. Cornelius 1 (3-ac), M. V. Delgado sur, rur. Tide Water's C. M. Carr 1 (72-ac), M. V. Delgado sur, elev 358 ft, top Pecan chalk 1656 ft, dr 3450 ft.

VAN ZANDT COUNTY—A. W. Walker, Jr. et al's H. V. Whitaker 1 (280-ac), Tyre Buckley sur, 2 mi n Grand Saline, elev 408 ft, Pecan chalk 2416-2545 ft, Austin chalk 3750-4035 ft, top Woodbine series 4595 ft, top water sand 4717-27 ft, dry and abd.

HARRISON COUNTY—W. F. Bridwell et al's Clapp 1, F. C. Baker sur, elev 285 ft, top Annona chalk 1431 ft, tested 30 ft oil in 15 minutes 2380-2406 ft, cemtd 9⅝ in csg 2380 ft, td 2406 ft limey sand.

PANOLA COUNTY—Logansport P. L. Co.'s Rushing 1, Manning Smith sur, dr 2200 ft shale.

SHELBY COUNTY — Mulroy & Curtin's Hayden 1, D. F. Yordt sur, mim. Potter & Rubelings O. H. Polley 1, Wm. Whisner sur, dr 3327 ft sand. H. A. Stebbinger et al's Pickering Lbr. Co. 1, C. F. Henry sur, co to deepen, td 3905 ft. Sommers & Farley's T. E. Green 1, J. English sur, woc 10-in csg 200 ft.

SOUTH TEXAS

ARANSAS COUNTY—Buckingham Oil Co.'s McCampbell 1, lots 8 & 9, sec 41; lots 8 & 9, sec 42, McCampbell subd, James Orick sur, 2 mi nw of Aransas Pass, 685 feet fr San Patricio County line, td 7501, plugged back to 6534 ft, blew out while making DST, showed oil and gas, wait on bigger rig to be used in recovering stuck drill pipe.

ATASCOSA COUNTY—R. C. Lee, Trustee (Atascosa Trust), U. A. Doumch 1, 152-ac tr, blk 10, J. T. Russell sur No. 1222, 3 mi n Poteet, td 3521, ran electric formation test, set 7-in csg 3460, top chalk 3503, bailed down, 600 ft water in hole, scum oil on water. W. B. Hinton's Weigand 1, in Donovan sur No. 124, 14 mi e Campbellton, lcn.

BASTROP COUNTY—Howell & Appleton's Herman Klemm 1, Richard Teal sur, sd 1229 ft. Marts & Beavens' Parkford & Jenkins 1, center lot 24, Bastrop Town tr, sd 650 ft, in fresh water sand. J. E. Mills' C. O. Randle 1, 100-ac tr, B. Brymer sur, 4 mi se Cedar Creek field, td 2436 ft, set 5 3/16-in csg at 2228, acidized with 1000 gals 2266, tested dry and sd.

BEE COUNTY—Geo. M. Church et al's C. A. Ray 1, Anna Burk sur, 2 mi e Beeville, dr 4410 ft. Lonnie Glasscock's Holzmark 1, 660 ft swl, 2350 ft sel of J. A. York sur, abt 1850 ft w Holzmark field disc well, set sur csg, woc. Fred Haworth, Jr.'s J. E. Copeland 1, Obed Marshall sur, 3½ mi nw Pettus, DST of sand 3465-71, 12 min show 350 lbs gas slight show of sw, td 4252, pb and set csg 3523 ft, tested gas and sw through perf 3460-69 ft. Howeth & Swiger's C. A. Voss 1, Samuel May sur, Ab 230, 2½ mi sw West Tuleta field, ru. Marine Oil Corp.'s J. C. Woods 1, 427-ac tr, J. Ryan sur disc well, Beeville field, td 5831 ft, reinstate to re-work, now ru. Nichols & Quinn's J. R. Scott 1, blk 7, Howeth & Swiger sub, Uranga gr, mim. H. A. Pressey's R. T. Hicks 1, 1120-ac tr, Jose M. Uranga gr, ab 568, 4½ mi s of Normanda, sand 3482-87, broken sand, shale and shells 3487-3502, 12 min DST 3482-3502, show 350 lbs dry gas, 90 ft mud, cored ahead to 3568 and reamed to 3526, tested 3526-68 show 2 fourbles mud and very little gas, now arranging for csg.

BEXAR COUNTY—American Gas Co.'s Oliver No. 5, 400-ac tr, M. F. Rodriguez sur, Gas Ridge, td 3079, ran 5 3/16-in csg to 2990 ft, underreaming. Carter & Ingersoll's Louis Mann 1, 60-ac tr, John Christopher sur, 3 mi s Von Ormy, dr 1084 ft. Joe Deupree's Mrs. R. S. Nina (R. S. Coffey) 1-A, Rodriguez sur, 7 mi s San Antonio, td 1200 ft, recemented csg at 1059, did not hold, now trying run 3-in tubing; S. G. Winter 1, 100-ac tr in Fernando Rodriguez sur, one mi w of Russell, td 1853, pb and testing 1404-65, set 6⅝-in csg 1285 ft. Nick Marosis' T. O. de Ruiz 1, F. Rolen League and Labor sur No. 48, just s of Von Ormy, dry and abd 785 ft. H. J. Moore's Mrs. Lena Eisenhauer 1, 80-ac tr in Gertrude Rodriguez sur, 9 mi ne of San Antonio, td 960 ft, sd for weather. O. M. Owensby's Minna Coreth 1, 284-ac tr, Adam Stafford sur No. 49, E. Eckert field, still sd 1091 ft. H. B. Schumacher's Hilda Gillette 1, 49-ac tr, M. G. de Alamiz sur No. 20, 7 mi s San Antonio, dr ahead fr 708 ft. F. M. Shaver's A. W. Bitter 2, Jose Baerrera sur No.

58, 2 mi nw Von Ormy, td 1024, swabbing. Fred Thorman's A. L. Salm 1, 330-ac tr, Hays sur No. 3, 2 mi s Martinez 1, drlg 1060 ft. R. P. Whitfield et al's Col. John Sweeny, 340-ac tr, GH&SA RR sur, 11 mi sw San Antonio, sd 260 ft for weather. Woodward & Hardie's R. W. Devilbiss 1, John W. DeVilbiss sur, Austin chalk test, dr 600 ft.

BROOKS COUNTY—The California Co.'s B. Garcia 1, tr No. 3, Las Mestinas de Gonzalina gr, Alta Mesa dist, coring 7200 ft. Fairway Prod. Co.'s Wm. Singer 1, 1530 ft sl and el of sur 312, 1500 ft sw disc, lcn. Nordan & Morris & Jim Nash's Wm. Singer 1, sec 312, Alta Verde, ¼ mi sw disc well, td 903, cap 892-892½, sand 892½-903, 5½-in csg 892, comp 60 bbls day on pump. Pedernal Oil Co.'s Wm. Singer 1, nw¼ sw¼ sec 436, Alta Verde, td 1003, ran electric formation test, showed 900 ft sand, woc.

CALDWELL COUNTY—J. J. Elam et al's Francis-Brown-Cochran 1, W. F. Young sur, 5 mi e Luling, dr 421 ft in lime. W. C. Jennings & Whittington's McMahan 1, James Pinchback sur, se Lockhart, 5 3/16-in csg at 1995 ft, acidized with 2000 gals, td 2343, washing and bailing showing oil and gas, will acidize. W. W. Lincoln's W. Branyon 2, 20-ac tr, Dillard Cooper sur, Branyon, 2082, set 5½-in csg 1875, top chalk 1872, comp I.P. 34 bbls day on pump.

CALHOUN COUNTY—Continental Oil Co.'s Vandenberg 1, sec 12, blk "H," Pedro Garcia sur, 1 mi north of other heaving shale wells, Seadrift prospect, set 200 ft 20-in csg, 1520 ft 10-ft csg, woc. Humble Oil & Refining Co. and Plymouth Oil Co.'s P. H. Welder 2, 1937.6-ac tr, J. M. Rios sur, 2 mi n of Heyser, sand 5452-58 ft, cap 5458-59 ft, sand 5459-66 ft, DST 5446-66 ft show 350 lbs, 120 ft oil, mud and dr fluid 10 min, ream and DST 5459-66 ft show 240 ft oil, oily mud and dr fluid 15 min, cored ahead to 5474, DST 5458-74, rec 125 pounds pressure 15 min, abt 2000 ft fluid when first joint was broken off, test sprayed oil for 5 min in last 6 thribbles was 400 ft 32.8 grav, and 150 ft mud, sand, oil and fresh water, td 5474, set csg on bottom, perf 5465-70, comp potential gauge 124.8 bbls day, 7/64 ch, cp 2125 lbs, gas/oil ratio 1 to 15 opens new field, production dropped to about 105 bbls day with gas/oil ratio of 2449 to 1, killed, will recement with squeeze job and perf lower, recompleted flowed 6½ bbls hour 7/64 choke, tp 500 lbs, cp 715 lbs, gas/oil ratio 200 ft per bbl, reperf csg 5467½-72½. Hilton & Miese's J. Brundrett 1, in Wm. Little sur, sd 192 ft, to move in materials.

DEWITT COUNTY — Southwestern Dev. Synd. ltd's W. L. C. Poetter 1, 590-ac tr, in Obed Marshall sur, 1320 ft w Slick field disc well, lcn. Universal & Gillespie's Schubel 1, C. Fitzgerald sur, abt 2 mi nw Yoakum, sd 1370 ft.

DUVAL COUNTY—Atlantic Oil Prod. Co. & Darby Pet. Co.'s J. F. Welder 1-F, sec 552, 1 mi w disc well Loma Vista field, 3 attempts to make DST of sand 2732-44 failed, dr ahead, td 3130 ft, dry and abd; J. F. Welder heirs 1-G, 120-ac tr, sur 102, ½ mi sw Seven Sisters field, td 2430, oil sand 2422-30, setting csg, top sand 2413, completing. Cabildo Oil Prop., Inc.'s C. S. Tinney 2, sur 8, and 375 ft se No. 1, s edge of Piedras Pintas salt dome, dr 2177 ft. Conservative Oil Co.'s DCRC 1, nw¼ sur 51, sw of Gov't Wells field, finishing ru. Dulce Oil Co. & Harvey & Henderson's Hagist 1, 990 ft sl and el sur 291, ½ mi w prod, lcn. Gifford Oil Co.'s A. S. Roach 1, sur 200, ru. Frank J. Gravis et al's Gravis et al 1, sec 250, 9 mi w San Diego, fsh 5150 ft. Magnolia Pet. Co.'s Peal 1, in sur 383, dr 250 ft. M. D. Mastin's D. Ruiz 1, sur 128, 1 mi w Hoffman field, dr 2638 ft. W. C. McBride, Inc.'s C. & A. B. Cuellar 1, sur 123, 1 mi w Hoffman field, ru. Navarro Oil Co.'s W. R. Peters 1, w 380-ac sur 39, n of Kohler field, ru. Randon Oil Co.'s South Texas Bank & Trust Co.'s 1, lot 23 in Central Securities sub., Diego Yncjosa gr, w of Realitos, ru. Santa Clara Oil Co.'s R. Serna Jr. 1, sw¼ sec 521, 3 mi e Loma Vista, dry and abd 3922 ft. Shell Pet. Co.'s J. F. Welder heirs 1-A (second hole), 80-ac lse, sec 103, cored sand and sd for orders. Stanolind O&G Co.'s Ira G. Yates 4, sec 560, ½ mi s disc well, Labbe field, gas sand 2446-51, td 4054, set 7-in csg 2478 ft, will perforate. Starr Development Co., Inc.'s J. B. Peal, 330 ft nl and wl of nw¼ sur 796, 1 mi ne Lopez, lcn. Stover's W. J. Hester 1, nw¼ sec 47, west outpost Gov't Wells, set 23 ft surf csg and sd. The Texas Co. and Ohio Fuel Oil Co.'s DCRC 2-B, sur 193, w of Sarnosa field, ru. Windsor Oil Co.'s W. R. Peters 2-B, 990 ft sl and 330 ft el sur 34, 2 mi n Kohler field, set 10-in csg, woc.

FAYETTE COUNTY — Ben G. Barnett's Sandy McKinnon 100-ac tr, Adam Zumwalt League, 10 mi nw Flatonia, cored shale 3405-10, td 3547, sd for fuel.

FRIO COUNTY—Amerada Pet. Corp.'s Halff & Oppenheimer 7, B. J. Gilman sur, Pearsall, td 3926, pb to 3912, testing csg, standard tools; W. H. Smith 2, 1476-ac tr and J. V. Mason sur No. 322, Pearsall, td 5636, comp IP 124 bbls first hour ¾ ch through tubing, top ch 5275, 7-in csg 5280 ft. T. Davis et al's Halff & Oppenheimer 1, J. D. Clara sur No. 336, 1 mi ne Pearsall, deep production, sd 5433 ft, top chalk 5330, csg 5337. Midland Oil Co.'s San Antonio Joint Stock & Land Bank 1, 60.8-ac tr, J. C. Woodward sur No. 2, 1 mi s of Pearsall townsite, to deepen from 4069 ft. Termo Co. of Texas' A. L. Arp 1, 102-ac tr, Blair sur, 4000 ft w Pearsall prod, dr 4115 ft.

GOLIAD COUNTY — Keystone Royalties Co.'s C. B. Wood 1-A, 10,500 ft sw and 3229 ft se of n cor of Rois sur, 3 mi e Berclair, owdd, td 6712, ru to wo. Zeni Oil Co.'s M. Lutenbacher 2, sw¼ of blk 25, Goliad Town tr, ru.

GONZALES COUNTY—O. M. Owensby et al's H. B. Steen 1, N. M. Bane sur, dry and abd 2135 ft. Tull et al's Boska 1, 61.2-ac tr, B. McClure sur, sd 2050 ft.

GUADALUPE COUNTY—J. E. Clark's E. W. Williams 1, Green DeWitt sur No. 13, 4000 ft sw S. Darst Creek, top Austin chalk 2358 ft, set 6⅝-in csg at 2357 ft, td 2509, treated with 1000 gals acid, pb to 2495, ran tubing. Clark & Weinert's Anderson 1, Green DeWitt sur No. 11, 6 mi s Kingsbury, td 2217 in chalk, did not sdtr but dr by slipd, ru whipstock at 2187, dr 2200 ft. Louis Crouch's J. Getzke's 2, 188-ac tr, 330 ft n No. 1, J. F. Clements sur, dr 480 ft. Frank Zoboroski 1, 70-ac tr, J. D. Clements sur, Zoboroski, td 2722 ft, made 3000 bbls sul water from Edwards lime, pb to 2210 ft in chalk, ru to pump and sd. Eickenroht & Gallagher's O. H. Jahns 1, 840-ac tr, Green DeWitt sur, 3 mi sw South Darst Creek, td 3134 ft in Buda, top Buda 3089 ft, prep make DST at 2950 ft. Pat Armstrong's J. Z. Fulcher 3, 150 ft nwl, 220 ft fr most sw nel of tr, Robt. Smith sur, 2 mi sw Prairie Lea (was Jim Harper et al), td 2477, reinstatement, bailed hole dry, will ru to pump, showing some oil. W. J. Walton et al's W. F. Krueger 1, H. Branch sur, just n Zoboroski area, set 7-in csg at 2170 ft, top chalk 2166 ft, dr 2315.

HIDALGO COUNTY — Gerald O&G Co.'s Nelson Mortgage Co. 1, blk 38, lot A, La Blanco Agricultural sub, 4 mi s city of Donna, td 6150 ft ran electric formation test to 6027 ft, woo. Gulf States Oil Co.'s J. C. Engleman 3, lot 3, blk 70, Las Mestinas gr, 700 ft e of Mestenas field disc well, gas sand 6265-73 ft, sand with light show of oil 6706-29, with oil show 6743-60, set 7-in csg 6764 after running Schlumberger perf 6720-35, tested sw, pb and perf 6688-6899, show 675 lbs pressure with spray of water through ¼ choke, killed, will reperforate. Maxwell-Mundy-Morris' Southland Dev. Co. (Hidalgo County Water Control & Impr. Dist.) 2, lot 11, blk 20, Alamo Land and Sugar Co. sub, Alamo gr, 4 mi s Alamo, td 725 ft, perf csg 650-56 ft, bailing, slight oil show, electric formation test showed sand 507-15, 636-660, pb to 679, 6⅝-in csg at 673, sd. Quintana Pet. Corp.'s John C. Engleman 1, lot 10, blk 94, La Mestenas gr, 4 mi se Mestenas field, td 8904, dk pulled in, sd for orders. Dayle L. Smith Oil Co.'s Fairbanks & Young 1, blk 44, porc 46, Reynosa Juris, 4 mi e Samfordyce field, td 1856, washing hole after fsh out 19 joints lost ds at 1865 ft. Union Sulphur Co.'s ARGL&I 7, tr No. 2309, blk 59, 4000 ft e, Mercedes field, td 7608, 5-in csg 7530, swabbing through perfs 7540-49 ft, sd for orders after failing to swab or flow through perfs; ARGL & I Co. 8, lot 2120, blk No. 87, n Capisalle district, n Mercedes field. td 7822, 5-in csg 7822, pb to 7590, test at 7790 unsuccessful, sd; ARGL&I Co. 9, Farm tr 2268, blk 59, n Capisalle district, ½ mi e Mercedes disc well, coring 7312 ft. Yates McCurry's Southland Dev. Co.'s 1, lot 13, blk 24, Alamo sub, 2½ mi s of Alamo, sp and sd.

JIM HOGG COUNTY—J. J. Cosner's E. Vela Heirs 1, 330 ft sl and el of blk 5, Clark & Cowder sub, of sur 571-572, sh 1, El Peyote gr, 4 mi e Henne-Winch Farris field, lcn. Theo Hicks et al's Kohler 1, blk 9, sub Noriacitas gr, lcn. Knode et al's J. C. Saunders 1, corners of blks 18, 19, 30 and 31, sec 17, R. Holbein sub, share 3, Las Animas gr, dr 3200 ft. Magnolia Pet. Co.'s Magnolia-Holbein 1, sur 36, Villareal sub, Agua Nueva de Arriba gr, sd 218 ft.

JIM WELLS COUNTY—Gist & Graddy's B. W. Owens 1, nw Bentonville field, Poitevent sur, dr below sur csg; F. Bennett 1, lot 87, sec 76, Holdeman sub, 2 mi w Premont field, dr 1100 ft. Houston Oil Co. et al's E. A. Hawkins et al 2, blk 11, Putnam sub, sd 3, San Diego gr, ½ mi San Diego field, otd 6301, pb 3500 ft, sdtr, dr to 6480 ft, unable to get electric formation test to bottom of hole on account of caving around 4500 ft, csg was set on the 2955-ft gas sand, tested sw at 2960 ft, comp 20 mcf gas per day, top sand at 2950 ft. E. M. Jones' R. Adams 1, se cor of blk 47, Waldon Oil & Gas sur, of Robert Adams ranch, 1½ mi w of town of Alfred, dr below sur csg. La Jita Corp.'s W. E. Pope 1, se cor of sec 20, set sur csg, woc. Stanolind O&G Co.'s Frame & Bowers 1, sec 14, King Ranch sub, 1 mi n disc well, lcn abd; J. J. Thompson 1, ne¼ of sec "A," King Ranch. 150-ac tr, ru; E. W. Raney 1, ne¼ sec 16, King Ranch sub, w offset disc well Bentownville field, dr 3031 ft; J. E. Saim 1, sw¼ sec 18, King Ranch sub, n offset disc well Bentonville field, dr 3070 ft. Texon Royalty & Lucey Pet. Co.'s Leona Dodd 1, sec 15, King Farm lots, nw offset disc well Bentonville, DST 5717-21 showed small amount gas, reaming at 5917 ft. Joe E. Walsh's W. D. Wade 2, lot 2, blk "C," Bode sub, Sandia area, sd 1200 ft.

KARNES COUNTY — DeGraffe & Reele's Cochran 1, McConnell League, 5 mi ne Riddleville, ru and sd. Hickman et al, R. L. Barnett 1, beginning at the s cor of Alex Hunter sur, thence ne along sur line 6900 ft, then nw at rt/a 1300 ft, ru. Worth Oil Co.'s E. Hysaw 1, 1069.8-ac tr, Don Erasmus Seguin gr, w of Kenedy, set sur csg.

KERR COUNTY—Auld & Evans' I. R. Heffner 1, sec 13, BS&F sur, 25 mi nw Kerrville, td 2800 ft, set 8-in csg at 2020 ft sand 2430-80 ft, flowed 3 bbls sw per hour.

KIMBLE COUNTY — Dr. B. R. Thomas' Rust 1, sw ¼ sec 47, BS&F sur, 13 mi nw Junction, lcn.

KLEBERG COUNTY—McCork & Daybault's Killam 1, lot 7, sec 53, DT&I sub, 5 mi se Recardo, lcn.

LASALLE COUNTY—Davenport & Talbot's G. Watkins, sur 103, 25 mi e Encinal, sd 2830 ft. Kennedy & Johnston's Gilmer & Wildenthal 1, 140-ac tr in sur 283, mim. Paul Meaders & Adair et al's Reed 1, sec 136, T. Conlan sub, 15 mi e and 10 mi s of Cotulla, fsh for ds 2792 ft.

LAVACA COUNTY—J. D. Aguier et al's No. 1 A. A. Staffa, W. R. Hensey sur, 5 mi s Schulenburg, dr 2940 ft. Goode & Mayton's M. Schaeffer et al 1, 481-ac lse, W. R. Hensley sur, lcn.

LIVE OAK COUNTY—Dirks Bros.' A. E. Nichols 1, 365 ft wl, 790 ft sl of tr in S. Ruan sur, lcn; George West Est. 1, 80-ac blk, Geo. West, 1 mi n townsite, dr 3480 ft. R. H. Feltner et al's John T. Carter & Bros. 1, sec 319, T&P Ry. sur, sw portion of county, td 3466 ft, set new whipstock at 2818 and dr 3290 ft in sdtr hole. Inter-Allied Pet. Corp.'s Aetna Life Ins. Co. 1, J. Poitevent sur, 49.47-ac tr, 6 mi ne Dinero, dk wo rig. J. J. McRoberts et al's J. D. Mahonet 1, 142-ac tr in Thomas Henry sur, 3 mi w Three Rivers, sp. Odgen & Reed's D. C. Reed 1, Clegg Ranch, sw part of county, dk and sd. T. T. Quinn's E. Terrell 1, J. Houlihan sur, 1½ mi ne Whitsett, sd 1080 ft, for orders. Windsor Oil Co.'s B. E. Stolte 1. center tr 9, J. Ingram sur, Ab-261, ru and laying water line.

MAVERICK COUNTY—Thomson & Streeter's Joseph Wipff 1, sec 18, 7 mi w Chittim field, 10 mi n Eagle Pass, sd 220 ft.

McMULLEN COUNTY—John F. Camp Dr. Co.'s C. E. Byrne Est. 3, 206-ac Byrne tr, Geo. Pittuck sur, w of Calliham, dry and abd 995 ft. Climax Oil Co.'s H. L. Lark 1, blk 96, E. W. B. Schrugham sur, ne Calliham field, dry and abd 1258 ft. Dan Culver & G. C. Richardson's Wm. Fehler 1, G. Pittuck sur, w Calliham, lcn. Daybault's Matula 1, 100-ac, James Garner sur, 2½ mi sw Calliham, sd 1018 ft. R. J. Hill et al's Richardson 1, sur 158, 15 mi sw Tilden, sd 595 ft, corrected depth. Humble O&R Co.'s Rhodes 1, s offset disc well, dr 940 ft. Ranier Oil Co.'s Hagist 1, se¼ of sur 25, mim. Reliance O&R Co. and Santa Clara Oil Co.'s Shiner Est. 1, nw¼ w½ sec 80, Shumway sub, dr 1600 ft. V. G. Schimmel's E. R. Hagist 1, sw¼ sec 108, ½ mi s Loma Alta field, dry and abd 2766 ft. C. C. Shumway's Shiner Ranch 9, 330 ft nl and wl of ne¼ sec 51, Shumway sub of Shiner Ranch, mim. Whisenant & Trenchard's Roos Bros. 1-A, ne¼ sec 60, 1¼ mi sw Magnolia's Kincaid 2, ru.

MEDINA COUNTY — Frank A. Brown's Mary Winn 1, John Ward sur, dr 960, sandy shale. R. S. Bynum's Melton 1, 160-ac tr, sur 14½, lcn. W. C. Campbell et al (Ed Falvey et al), McMenemey 1, sur No. 331, G. Pittuck sur, 4 mi se Devine, sd 2892 ft. N. C. Johnson's Taylor 1, 320-ac tr, sur 136, lcn.

NUECES COUNTY—Coastland Oil Co. & Keystone Royalties' (Paul Benedum et al) Page Bros. 1, s 50-ac share 2, Geo. Franks sub, 3300 ft w of prod, owdd, old td 5856 ft, sdtr hole, went into old hole, washed down to 2560 ft, now at 5928 ft, core 5839-48, no recovery; sw sands 5848-59, 5859-86, sandy shale 5886-92, red shale 5892-96, coming out with sand core 5910-28. V. L. Blanchard's T. H. Isensee 1, blk 8, R. Shaeffer lands sub, 1½ mi w Clarkwood townsite, dr 2500 ft. J. T. Cox's John Harvey, share 11, Harney lands, Gregoria Farias gr, 2½ mi se Callahan, sd 2085 ft. M. F. Hurlburt's J. C. Phillip 1, center lot 9, 20-ac tr, sur 48, Flour Bluff Encinal Garden Tracts, 9½ mi se Corpus, sand 6629-35 ft, DST 6628-35 show 250 lbs pressure 9 min, ¼ and ⅜ choke, used 1000 ft fresh water cushion, show no oil, carried distillate odor, top Discorbis either 5335 or 5418, Heterostegina 6036, Marginulina 6325, td 6784, reaming 200 ft rat hole. W. P. Hinds' Edwin Flato 1, center blk 8, sec 107, 1½ mi sw Clara Driscoll field, sd 3880 ft for repairs. O. W. Killam's Betty Ellich 1, 86.28-ac tr, sec 109, Pauls sub, 4000 ft sw Clara Driscoll field, running electric formation test 3817, cap 3811-13, sand 3811-17 ft, td 3822 ft in shale, 7-in csg set on bottom, drilled ahead to 3899, gas sand 3872-99, set short string on bottom, blew out while attempting completion, still wild, making est 3500 bbls sulphur and 1500 bbls oil and many million cu ft gas. H. M. Reed's Katherine Quinn 1, 19.6-ac tr, Villareal sur, about 3300 ft w of Saxet Heights prod, td 4117, set csg on bottom, ran electric formation test, perf 4069-73, made 45 bbls plo first hour then went dead,

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made gas, recementing perfs, reperforate, completing. G. M. Richardson's Wm. Gerhardt 1, 208.65-ac tr, sec 79, Geo. H. Pauls sub, A. F. de La Fuente sur, abt 2¾ mi ne Agua Dulce field, dr 1600 ft. Southern Minerals Corp.'s Rand Morgan 2, lot 42, Artemus Roberts sub, AB&M sur, sec 411, Saxet, 9200 ft nw 5800 ft prod, dr 4054 ft. Terminal Oil Products Co.'s R. V. Thurman 1, sw¼ sec 10, Flour Bluff Garden Tracts, Rincon del Oso Grant, dr 900 ft.

SAN PATRICIO COUNTY — Benedum & Trees' Mrs. E. H. Welder 2, sec 19, Welder Ranch sub, 3½ mi ne Sinton, coring 6480 ft, gas sand 6470-80; E. H. Welder 3, sec 19, Welder Ranch sub, td 525, set 517 ft 13-in csg, woc. C. B. Bunte's W. C. Mayfield 1, tr 11, Roos sub, 2 mi n White Point field sd because of litigation. Esnes Oil Co.'s (Geo. E. Smith) J. E. Britton 3160-ac tr, sec 6, blks 7 and 8 2nd sub Taft Farm lands, Taft, td 4015, sand 4009-15, setting csg, comp 145 bbls day 9/64 choke. Joe Lundin & Rowan & Hope's Mrs. E. H. Welder 1, sw¼ of sec 20, Welder Ranch sub, 2½ mi sw St. Paul, mim. Portilla Oil Co.'s E. H. Welder 1, sec 5, Welder Ranch sub, dr 4567 in hard sand and lime.

STARR COUNTY—J. F. Anderson's Yzaguirre 1, 139-ac tr, porc 79, coring 1535 ft. Bishop & Henshaw's W. D. Martin 1, 660 ft sl, 3803 ft wl, sur 627, ru for 3500-ft contract. Porter & Evans' SCCC 1, beginning at State Highway No. 4 where it crosses the wl porc 89, thence s along wl porc 89, 13,000 ft thence e at rt/a 500 ft to lcn. Kilman & Staggs' S. D. Ricaby 1, 150 ft s Highway 4, porc 83, Carmargo Juris, 2 mi e Rio Grande City field, junked and abd 1556 ft; S. D. Ricaby 2, 150 ft sl, 200 ft wl Ricaby tr, porc 83, 1000 ft south No. 1, ru. Larkins & Warr's Kelsey Bass 1, lot 8, Coastal sub, porc 87, Barbacosa area, dr 2900 ft. Ed Leach's Wood Est. 1, 2100 ft n Rio Grande, porc 84, 3 mi se Rio Grande City, td 2740, ran third electric formation test, abd. Ed Leach's Wardner Trustee (Dona Est., Inc.) 1 (was A. J. Weyel No. 1), 431 ft sl, 244 ft el of 160-ac tr, porc 84, td 2149, reinstatement, dr out cement attempting to circulate and get on bottom. Otto W. Woods' H. P. Guerra 1, lot 35, Conroe sub, porc 50, Mier Juris dr 250 ft.

TRAVIS COUNTY—Albrecht & Brinkrueger Sr.'s M. C. Swenson 1, 75-ac tr, L. Kimbro League, sec 5, Kimbro area, dry and abd 1280 ft. W. F. Johnson's Eliha Beery 1, center lot 1, lot 14, Granview sub. division B, city of Austin, lcn. Sal-Mar Oil Corp.'s P. Carlson 1, M. W. Smith sur, 4 mi n Kimbro, lcn.

WEBB COUNTY — French Oil Corp.'s S. Benavides 1, sec 2254, 3 mi n Oilton, ru. Illinois Pet. Co.'s J. H. Kirkpatrick 1, se cor of nw¼ of sec 16, CCSD&RGNG RR sur, nw of Lopez field., dr 1220 ft.

WILLACY COUNTY — Shell Pet. Co's Yturria Land & Cattle Co. 1, most southerly se cor of sh 64, San Juan de Carritos gr, La Sal Veja prospect, coring 5040 ft, interesting shows around 4800 ft.

WILLIAMSON COUNTY—James H. Holdeman et al's Amor Forwood 1, 160-ac tr, HT&B Ry. sur, sec 4, sur 14, dr 960 ft, shale. Fred Hughes' M. Bachmayer 1, C. C. Browning sur No. 82, 12 mi se Taylor, fsh 1165 ft. W. H. Moody's J. V. Stiles 1, 525 ft nl and el of 230-ac tr in J. Bevil sur, lcn.

WILSON COUNTY—Otto Hierholzer's E. M. Hierholzer 1, R. Salinas sur, 12 mi sw Florresville, lcn. A. G. Reimenschneider's Lon Harrell 2, 209-ac tr, Manuel Baerrera sur, 5 mi s of Florresville, td 708, sand 699-703, DST 695-703, 15 min. hole flowed water and mud.

ZAPATA COUNTY—Ivan Howard et al's Y. Martinez 2, blk 1, sur 241, coring 1100 ft. George Buck's Haynes 1, blk 4, A. D. Haynes sub, Comitas & Villa gr, dr 650 ft. R. A. Mitchell's P. Bustamante 1, share 32, Fansler Partition, Comitas gr, Escobas area, sd 250 ft. J. J. Perren's Uribe 1, blk 31, Perren sub, sd 485, San Ygnacio sub, Borrego gr, 12 mi ne San Ygnacio,, prep to spud.

ZAVALLA COUNTY—Bay Oil Corp.'s Nat'l Bank of Commerce 1, sec 43, blk "A," AB&M sur, 16 mi se Batesville, td 5828, slight saturation in Austin chalk 5816-28, may set csg and test. W. L. Bridges' E. B. Flowers 1, sec 19, blk 1, I&GN RR sur, sd 450 ft. Frank Buttram et al's Whitecotton 1, B&M sur No. 1, dr 5170 ft. Leona Oil Corp.'s George West 1, C. Bustillo sur No. 1, top chalk 5760 ft, sd 6020 ft, contract depth.

TEXAS GULF COAST

AUSTIN COUNTY—W. H. Mitchell's Fenner 1, s of Kenney, J. Fitzgibbins sur, dk.

BRAZORIA COUNTY — Gulf's Fairfield 1, Lockridge prospect, A. Robeson sur, dr in sdtr hole 6836 ft. Texas Gulf Prod. Co.'s Sparks 1, Angleton prospect, Wm. Roberts sur, sd 7525 ft. Strake Pet. Corp.'s Poole 1, Poole Ranch prospect, W. Eggers sur, washing to bottom at 6731 ft.

GRIMES COUNTY—Crooke Brothers et al's Greer 1, near Carlos, P. B. Connor sur, dr shale 2822 ft.

GALVESTON COUNTY—Shell's Maco Stewart 1, Hitchcock area, J. Spilman sur, dr clay 210 ft.

HARDIN COUNTY—David B. MacDaniel's Nona Mills 1, Grisby prospect, E. Emanuel sur, abn 8098 ft. Republic Prod. Co.'s Burrell 2, Silsbee prospect, A. A. Burrell sur, dr shale 6292 ft. Resource Prod. Co.'s Howth 1, sw of Ariola, A. J. Cotton sur, sd 4437 ft.

HARRIS COUNTY—Amerada-Stanolind's L. Dopsalus 1, Fairbanks-Satsuma prospect, W. C. R.R. sur, Sec 2, testing sand 6866 ft. Bunte et al's Lobit 1, Cedar Bayou prospect, B. Barrow sur, abn lcn. Zeni Oil Co.'s Perkins 1, Hockley dome, A. Sherrell sur, dr shale 1831 ft.

JEFFERSON COUNTY—H. J. DeArmond's State National Bank 1, ne of Amelia, E. Bigner sur, dr shale 2990 ft. Magnolia's Funchess 1, Cheek area, H.&T.B. sur, No. 6, dr shale 8846 ft. O. H. McSpaddin's Burrell 1, Cheek area, Wm. Smith sur, dr shale 3506 ft. Shell's Carpenter 1, Nome prospect, M. Peveto sur, dr shale 3865 ft. Sun's Broussard 1, Labelle prospect, B. Blackmon sur, dr shale 8707 ft. C. W. McPhil's Owens 1, n of Port Arthur, sd 2275 ft.

LIBERTY COUNTY—Jack Frazier's Serles 1, Hardin area, A. Green sur, dr shale 6923 ft.

MATAGORDA COUNTY—John Deering's Estill 1, Cedar Lane prospect, Tone & Jamison sur, fsh 6868 ft. Helmerick & Payne's Hawkins 1, Sheppards Mott, D. A. McCarthy sur, dr 7816 ft, pb tested salt water 3746 ft, abn. Marathon Oil Co.'s Kountz 1, Midfield prospect, I.&G.N. sur No. 11, lcn. Sun's Craig 1, e flank of Hawkinsville dome, T. Williams sur, waiting on orders at 5295 ft.

MONTGOMERY COUNTY—H. W. Blumenthal's Delta Land Co. 1, Dacus prospect, J. Beuhn sur, waiting on orders at 4011 ft. W. O. Belnoski's Wood 1, Willis area, Wm. Wier sur, spudded. Tide Water's Corbitt 1, Splendora, J. J. Blackman sur, abn 6418 ft.

ORANGE COUNTY—Coker Oil Co.'s Mansfield 1, s of Vidor, J. W. Hill sur, sd 1845 ft. Tide Water's Brown 1, Cow Bayou prospect, M. Latham sur, spudded.

POLK COUNTY—Hawkeye Oil Co.'s Harder 1, 2 mi nw of Livingston field, A. Viesca sur, dr shale 1625 ft. Dick Schwab's Kirby Lbr. Co. 1-A, Ace area, T. A. Sublett sur, comp 349 bbls daily quarter-in choke 4815 ft.

SAN JACINTO COUNTY — Jack Frazier's Randolph 1, Evergreen area, Vital Flores sur, dk.

TYLER COUNTY — McArther & Nixon's Kountz 1, Rockland area, E. Smith sur, dr clay 65 ft.

WALKER COUNTY—Boone Brother's Thompson Lbr. Co. 1, w of Trinity, Jose Ortego sur, ru.

WASHINGTON COUNTY—Sun's Lauter 1, Clay Creek, se flank of field, N. Clay sur, dr shale 5685 ft.

WHARTON COUNTY—Pure's Paige 1, Blue Basin prospect, J. Pirie sur, abn 9200 ft. Smith & McDannald's Presemeyer 1, Lakeview prospect, H.&T.C. sur, No. 10, dr shale 4011 ft. Sterling O&R Co.'s A. Genzer 1, East Bernard prospect, J. Scott sur, dr sdtr hole 4420 ft.

WYOMING

ALBANY COUNTY—James Lake Oil Co., George & Hunt 1, nw ne se 5-17n-75w, spd and sd.

CARBON COUNTY — General Petroleum Corporation's Union Pacific 1, sw sw nw 5-19s-83w, dr 2189 ft.

CONVERSE COUNTY—E. B. Jones State 1, sw sw sw 16-32n-69w, dr 2316 ft.

NIOBRARA COUNTY—Lewis Gokel sw ne 31-34n-62w, dr 593 ft.

PARK COUNTY—General Petroleum Corporation's Government 1, nwc 33-47n-100w, lcn awaiting material.

WASHAKIE COUNTY—Wyoming Oil & Refining Co., Frison 1, nw sw nw 14-48n-97w, dr 1663 ft.

JACK A. SCHLEY
Patent Attorney
(Established 1902)
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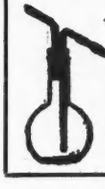
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NEW PRODUCTS FOR THE FIELD
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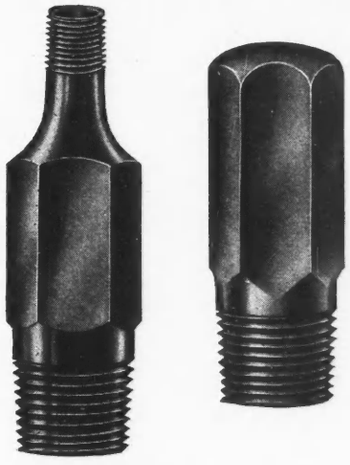
PLUG AND NIPPLE
Larkin Packer Company

Larkin Packer Company, St. Louis, Missouri, is offering a new and improved swage nipple and bull plug in the smaller sizes, on which patents have been applied for. These new bull plugs and swage nipples, which are made in

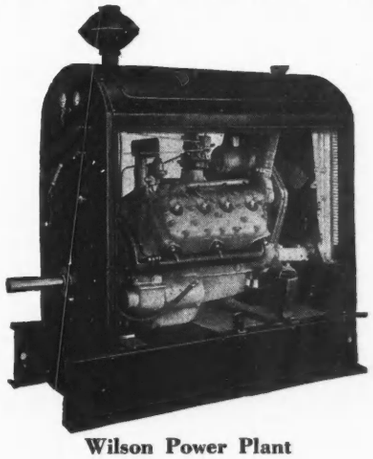


Larkin Swage Nipple and Bull Plug

sizes 1 inch and under, are hexagon shape instead of round. The advantages of this hexagon design are evident, inasmuch as it is not necessary to use a pipe wrench on this small equipment. It is possible to use a Westcott wrench or any type of open-end wrench on these small size nipples and plugs, a feature which should appeal to the average operator.

POWER PLANT
K. R. Wilson

K. R. Wilson, Buffalo, New York, has announced a new industrial unit with Ford V-8 engine. This compact and complete unit is intended as a power plant for electric welders, air compressors, hoists, fire and water pumps, well drilling outfits, contractors and oil field equipment. It utilizes the heavy duty Ford V-8 truck engine with large clutch, largest capacity truck radiator (25 quart cooling system) six blade fan, new style ball bearing water pumps, and double V-belt drive. The unit includes a complete electrical system—starter, generator and 17-plate battery. Engine is equipped with governor, and at a slight extra cost, can be equipped for operation with natural gas instead of gasoline.



Wilson Power Plant

VENTILATOR
The Burt Manufacturing Company

The Burt Manufacturing Company, Akron, Ohio, has developed a "Free Flow" gravity roof ventilator which the manufacturer claims is free of all moving parts and offers no service problem. The entire discharge from the ventilator is vertically upward, a principle that is opposed to the usual type of construction in which a great part of the discharge is beneath the windband. No internal louvres which would tend to impede the flow of air through the unit are used. The manufacturer will mail a new bulletin describing the ventilator to interested persons upon request.

WELDING TORCH
Modern Engineering Company

Modern Engineering Company, St. Louis, announces the new "Weldmaster" ultra-light weight welding torch which, with a standard tip, weighs only 17½ ounces. A new alloy that can be forged, extruded and heat treated, and with a tensile strength of mild steel, is

Light Weight Welding Torch

used in the construction. According to the makers, the torch is perfectly balanced as a result of weight elimination, and can be manipulated by the operator with maximum flexibility and minimum effort.

The circle mixer employed in all Meco torches has been improved and its capacity increased. A new method of boring passages to rifle smoothness has been developed in this torch. Ideal flame characteristics under any operating circumstances in the full range of welding practice are claimed for it.

WELDING ELECTRODES
Harnischfeger Corporation

Harnischfeger Corporation, Milwaukee, Wisconsin, has announced a new line of coated rods for D.C. welding. It includes five different types with both high and low rates of fluidity for various types of work in welding in flat, vertical or overhead positions and with ferrous and nonferrous metals. Service tests show tensile strength of welds from 55,000 to 75,000 pounds per square inch with various types of rods ranging from 3/32-inch to ⅜-inch in size, the manufacturer claims.

DITCHING MACHINE
Barber-Greene Company

Barber-Greene Company, Aurora, Illinois, has announced the new B-G Model 64-B ditcher. The new model has all of the features of the previous machine, with a digging broom for a maximum depth of 5 feet. The boom is equipped with buckets which may be adjusted for a width of 8 or 11 inches. A boom for digging to 3½ feet is available if desired.

Barber-Greene Ditching Machine

With a total overall width of only 48 inches, the new ditcher is able to dig in the closest quarters. The relatively miniature size of the ditcher makes it ideal for traveling from job to job on a small trailer. Being full crawler mounted, it loads and unloads itself. The 64-B incorporates all of the standard Barber-Greene ditcher features including: automatic overload release sprocket which slips when an overload occurs and resets itself, full crawler mounting, three point suspension, vertical boom, milling action digging, self-cleaning buckets, instantly reversible spoil conveyor, etc.

20-TON JACK
Blackhawk Manufacturing Company

Blackhawk Manufacturing Company, Milwaukee, has developed a 20-ton capacity portable hydraulic jack for heavy duty work. The jack is a unit of the "Porto-Power" line, and consists of a pump and ram separated by a reinforced flexible hose. Because of the remote control feature, the ram operates at full capacity in any direction, making it ideally adapted for vertical lifting or downward push in a press frame, the manufacturer states.

The pump of the jack may be mounted on a portable wheeled stand or can be carried directly to the job. The ram unit is connected to the pump by an 8-foot reinforced steel mesh hose. Collapsed, the height of the ram is 10¼ inches. The plunger travels 4½ inches, while a screw extension of 3¾ inches gives an overall height of 18 inches. The ram can be operated in crowded quarters, the overall diameter of the unit being only 4 inches. The base of the ram unit is threaded to permit addition of heavy extensions or mounting in a press frame, converting the device into a convenient 20-ton hydraulic press.

This Week with the Industry's EQUIPMENT SUPPLIERS

SKF Industries Opens New Store at Dallas

SKF Industries, Inc., of Philadelphia, has opened a new store at 410-12 North Saint Paul Street, Dallas. In a 50 x 100 foot building, the company is carrying a complete stock of all standard sizes of SKF ball and roller bearings, drop and post hangers, pillow blocks, replace boxes and flanged housings. Three salesmen traveling out of this branch cover the states of the Southwest.

SKF Dallas Store

T. N. St. Hill Has Completed Long Tour

T. N. St. Hill, vice president of Petroleum Rectifying Company of California, recently returned from a trip through the Gulf Coast and Mid-Continent oil fields, accompanied by Gordon S. Nees, Texas district sales representative for the company. From the Gulf Coast, St. Hill continued on a tour of the various oil districts as far north as Michigan, conferring with refiners relative to problems resulting from salts in crude production and in refined products; also visiting refineries in Kentucky and Arkansas where Petreco Electromatic Salt Removal Plants are in operation, for the purpose of inspecting the performance of these installations.

Byron Jackson Makes Sales Personnel Changes

Byron Jackson Company, oil tool division, has appointed R. L. (Bob) Gibbons to handle sales work for the company in Kansas, Wyoming and Colorado, and to cover northern Oklahoma as far south as Bartlesville. His headquarters will be in Wichita. Gibbons is well known in East Texas. Prior to his present connection with Byron Jackson Company, he was manager of field sales for Atlas Supply Company at Seminole for three and one-half years and was with the same company at Earlsboro for a year. Gibbons previously worked in the field.

J. G. (Jack) Hood, who has sold Byron Jackson oil tools in South Texas and Louisiana fields for some time, was transferred to Southwest Texas on May 1. He will handle sales there and in West Texas and New Mexico. Hood represented Baash-Ross Tool Company in Louisiana for a year before going to Byron Jackson Company.

American Rolling Mills Makes Mercer Executive

Bennett Chapple, vice president and director of publicity for American Rolling Mill Company, Middletown, Ohio, recently announced the appointment of Harry V. Mercer as advertising manager for the company. It is a newly created office at Armco.

Mr. Mercer has been associated with Armco since May 1, 1916. During 14 of his 20 years of service he has been identified with practically all phases of the company's publicity and advertising. In his new responsibilities, he will administrate the company's program of advertising.

Leonardon Leaves for European Trip

Eugene G. Leonardon, vice-president of Schlumberger Well Surveying Corporation, will leave Houston June 12, for a business trip and vacation to Europe. During his visit abroad, Leonardon expects to spend part of his time at the headquarters of the Schlumberger organization in Paris, studying the new lines of activity of the parent company and the application of electrical logging methods in foreign fields.

Acting in Leonardon's capacity in Houston during the summer will be Paul Charrin, who was elected vice president of the company at a recent meeting of the board of directors. Charrin, who has been connected with the Schlumberger organization for more than 11 years.

S. M. Jones Moves Houston Office

The S. M. Jones Company of Toledo, Ohio, has moved its Houston division office to 510 Petroleum Building. L. J. Pundt, division manager, and C. E. Buchner can be reached at this address.

Bean Is Burt Corporation Gulf Coast Representative

The Burt Corporation has announced that Roy Bean, former sales manager of J. H. McEvoy Company, has been appointed the Gulf Coast representative with headquarters at Houston, Texas.

Bert L. Stone Has Returned to California

Bert L. Stone, vice president and chief engineer of Hydril Company, has returned to his headquarters at the company's Torrance, California, plant after an extensive trip to eastern machinery manufacturing centers. He spent several weeks in Cleveland and Cincinnati, Ohio, and Pittsburgh, Pa., investigating the latest developments in several types of machine tools preparatory to placing an order for new equipment to be added to the Hydril Company's Torrance and Houston factories. On the way back Stone visited the Oil Show at Tulsa and attended the A. P. I. meeting held in that city.

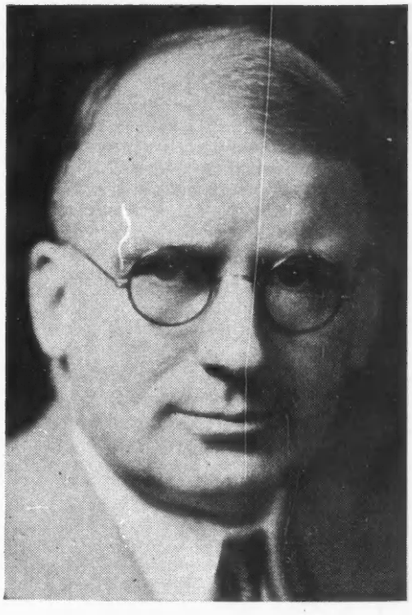
J. G. HOOD

R. L. GIBBONS

BERT L. STONE

"HOT OIL"

The Problem of Petroleum



by

SAMUEL B. PETTENGILL

A member of the Committee on interstate and foreign commerce, which handles petroleum legislation for the House of Representatives, as well as of the Cole Committee which in 1934 and 1935 made an extensive study of the industry.

In this book Mr. Pettengill tells the vivid story of the growth of this industry—of its early beginnings, of the men who pushed the oil empire westward and of the problems it now faces as a modern industry of the first importance, affecting the lives of millions. The oil industry, today, faces problems which are both the legacies of its past and the aftermath of the depression.

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In "HOT OIL" these issues are considered impartially and authoritatively, and the views of such prominent individuals as President Roosevelt, Secretary Ickes, Governor Landon, Charles Evans Hughes, W. S. Farish, Henry L. Doherty, William Green and many others are presented.

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Squeaks from the Bull Wheel

Too Late to Quit

Author—Well, sir, the upshot of it was that it took me ten years to discover that I had absolutely no talent for writing literature.

Friend—You gave up?

Author—Oh, no; by that time I was too famous.

Best Not Seen

"I want to see your beauty editor," said the caller at the sanctum of a popular magazine.

"Are you following her advice?"

"I am."

"Got confidence in it?"

"I have."

"Then you don't want to see her."

Prenatal Scores

Two ladies were married to musicians. The one, a bride of a year, was pushing a baby-carriage in which were three fine babies—triplets, all girls. The other lady had been in the bonds of matrimony a couple of weeks.

"What beautiful children!" exclaimed the newly married one with interest.

"Yes," replied the proud mother, "let me tell you the funniest coincidence. At our wedding supper the boys who played with my husband in the orchestra serenaded him and they played 'Three Little Maids,' from 'The Mikado.' Isn't that queer?"

At this the other bride turned pale.

"Mercy!" she gasped. "At our wedding supper Tom's friends serenaded him, also, and they rendered 'The Sextette' from "Lucia'!"

His Record

A meek little man was in court for a minor offense.

"Were you ever in trouble before?" asked the judge.

"Well, er—er," was the hesitating response, "I kept a library book too long once, and was fined six cents."

It Worked

"Alice, I'm going to give a lot of these old clothes to the charity organization," Brown announced to his wife. "Here are socks and shirts that ought to do some poor fellow a lot of good."

Alice came over to look into the matter.

"I guess it will be all right," she agreed, "But, my! I can't send that stuff out like that. Why, there are a lot of buttons off the shirts, and the socks need darning."

In a few days Alice had the garments fixed up and announced to hubby he could send the package off to the charity organization now.

"But Alice," he protested when he looked the stuff over, "you have it in such good shape that I am going to wear them a while longer myself."

As Alice went out of the room, hubby smiled contentedly.

"It worked! It worked!" he observed under his breath.

Speed

Two Irishmen came to a railroad crossing. The gates were down.

Stopping the car, they settled down until the train should pass, but both were soon asleep.

With thundering wheels the express dashed past, causing them to open their eyes.

"I say," said one, "wasn't that a well-lighted village we passed through?"

"Yes," yawned his companion, "an' did you notice that the first house was on fire?"

Too Good to Give Up

Divorce Judge—I understand your husband is willing to allow you the custody of the home, the automobile, the radio, the poodle and the bank account, while he will take the children, the sewing machine and the washing machine.

Applicant—Stop the divorce! I shall never find another husband who is as generous as that!

Mathematical Problem

A company of colored recruits had received an announcement they would be drilled on the morrow on how to attack a fortification.

When the company had been dismissed, a big, awkward private approached the corporal in charge of his squad and asked: "What am a fortification?"

The corporal seemed to swell with contempt at such ignorance. "Don't you know no 'rithmetic at all? Everybody knows dat a fortification ain't nuthin' more'n two twentifications."

Party Man

"No, you can't see Mr. Smith," snapped the sharp-faced woman to the political canvasser at the door.

"But, madam," expostulated the canvasser, "I merely wish to find out what party he belongs to."

"Well, then, take a good look at me. I'm the party he belongs to."

Yes, Sure It Was

A man from Kansas was looking into the depths of the Grand Canyon. "Do you know," said the guide, "it took millions of years for this great abyss to be carved out?"

The man from Kansas was tremendously impressed. "You don't tell me," he commented. "Why, I didn't know this was a government job."

Barbers Outside the Gates?

"Mamma," said little Johnny, "don't men ever go to heaven?"

"Why, of course, my dear. What makes you ask?"

"Because I never see any pictures of angels with whiskers."

"Well," said the mother, thoughtfully, "some men do go to heaven, but they get there by a close shave."

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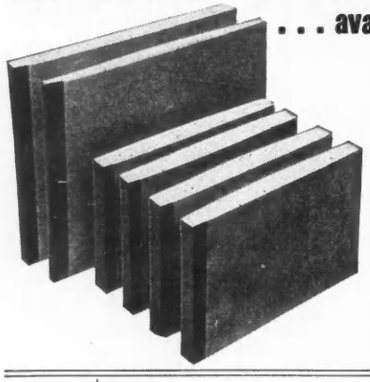

After carefully reviewing the forms of a number of oil companies, The Gulf Publishing Company has made up six standard forms listed below and has produced these in such quantities as to enable oil companies to secure them at substantial savings.

These forms are printed on 16 lb. Bond Paper. They are substantially bound. Duplicates are printed on colored bond and perforated, pencil carbon included with each book.

Forms will be shipped prepaid at prices shown below. Samples will be sent upon request.

Number	Kind of Form	PRICE 1 Book	5 Books	10 Books
Form 100	DAILY DRILLING REPORT—1 TOUR (In duplicate—100 sets to the book)	$1.50	$6.50	$10.50
Form 101	DAILY TIME RECORD (In duplicate—100 sets to the book)	1.40	6.00	9.50
Form 102	DAILY GAUGE REPORT (In duplicate—100 sets to the book)	1.40	6.00	9.50
Form 103	WELL LOG AND RELATED DATA (8½x11, Printed both sides—100 to book)	1.50	6.50	10.50
Form 104	PIPE TALLY SHEET (In duplicate—100 sets to the book)	1.50	6.50	10.50
Form 105	MATERIAL TRANSFER RECORD (In duplicate—100 sets to the book)	1.50	6.50	10.50
Form 106	DAILY DRILLING REPORT—3 TOURS (In duplicate—100 sets to the book)	1.50	6.50	10.50

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Why Bother to Change Dies?

No. 65R, ratchet. No. 65, plain die, 2 handles.

This RIDGID Threads 4 Sizes of Pipe with 1 Set of Dies

The famous RIDGID Pipe Wrench is now made of double strength alloy metals, jaws, handle and housing. Meets U. S. Government specifications and Navy Tests.

• Spin up the workholder and slide the setting post to the size pipe you want to thread, 1″ to 2″ —and this tool is ready to cut a clean true thread, over or undersize, drip threads or short nipples. No bother of changing dies.

This new 65R RIDGID die stock *really does it.*

But it also has a workholder you'll like. It sets to size by a twist of the gauge ring and tightens with ONE screw.

Note these, too: a thumb lever that releases dies from threads when backing off and reverses ratchet by the same turn. Feet to stand it up. Straight line action, handle to dies, no cock or wabble. Maximum chip room, easy to keep clean, enclosed parts, plenty of strength for hard work and rough use. Lightest, neatest die made.

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Elyria, Ohio, U.S.A.

RIDGID

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P

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Producers Supply & Tool Co.	—

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Yale & Towne Manufacturing Co.	—
Youngstown Sheet & Tube Co.	—

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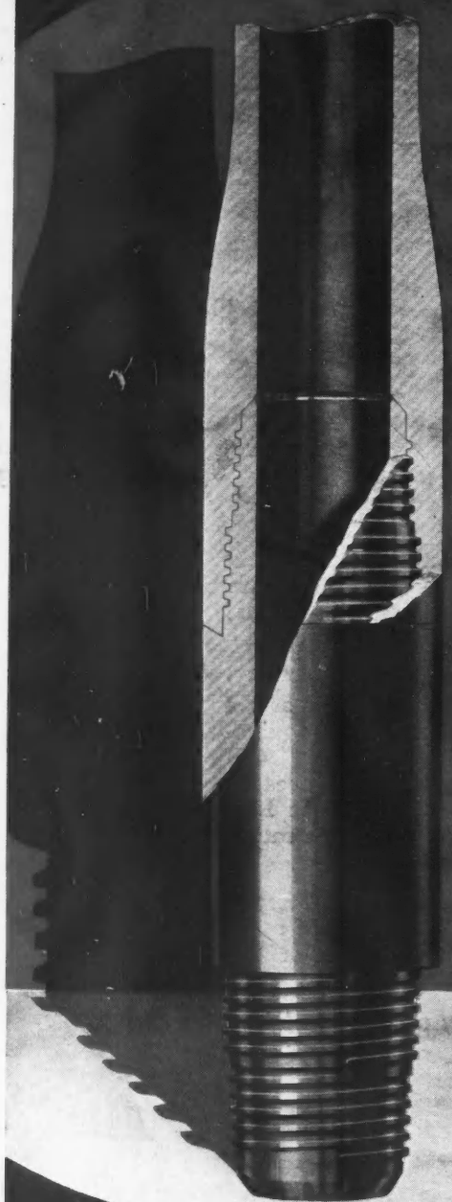

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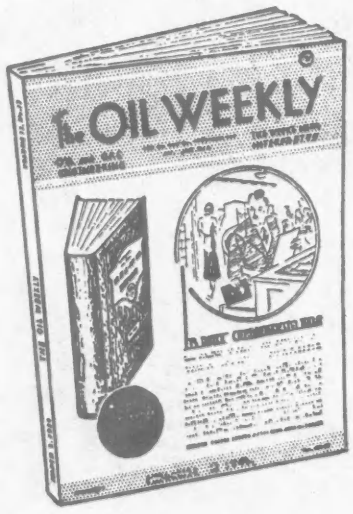
SUPPLEMENT TO THE OIL WEEKLY, MARCH 16, 1936



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Gulf
Texas
SHELBY
Center
Pickering
Shelbyville
Martinsville
Chireno
Lufkin
Huntington
Diboll
Lay
ANGELINA
SAN AUGUSTINE
San Augustine
Magnolia
Broaddus
Zavalla
Corrigan
Atlantic
Pure-Van
Rockland
Colmesneil
Chester
Doucette
Indian Village
TYLER
Woodville
Hillister
Warren
Spurger
Fred
Legrand
Beech Grove
Erin
JASPER
Jasper
Rogaville
Keithton
NEWTON
Newton
Bleakwood
Kirbyville
Bon Wier
Wiergate
Burr Ferry
Sabine
Bronson
Hemphill
Yellow Pine
Brookeland
Milam
Pendleton
Sabine River
TEXAS
LOUISIANA
Keithville
Stonewall
Gloster
Keatchie
Longstreet
Grand Cane
Mansfield
Frierson
Kingston
Holly
Naborton
DE SOTO
Spider
Benson
Pelican
Pleasant Hill
Converse
Sodus
Noble
Belmont
Blue Lk.
Zwolle
SABINE
Many
Ft. Jessup
Elm Grove
Ringgold
RED RIVER
Crichton
Coushatta
Bull Bayou
Evelyn
Armistead
Sibley
Bisteneau
Gibsland
Vacherie
Mt. Lebanon
Sailes
Arcadia
Bryceland
Oak Grove
BIENVILLE
Jamestown
Sparta
Bienville
Kings
Lucky
Protho
Rayburn's
Danville
LINCOLN
Simsboro
Vienna
Clay
Quitman
JACKSON
Hodge
Jonesboro
Weston
Wyatt
Salt Springs
Chestnut
Creston
Goldonna
Price's
Clear Lk.
Roy
Campti
Marthaville
Hagewood
Robeline
Provencal
Natchez
Bermuda
Cypress
Derry
Natchitoches
NATCHITOCHES
Grand Ecore
Clarence
St. Maurice
Coochie Brake
Atlanta
Montgomery
Verda
Cloutierville
Aloha
Chopin
WINN
Dodson
Calvin
Winnfield
Tannehill
Cedar Crk.
Sikes
Packton
Georgetown
GRANT
Williana
Colfax
Dry Prong
Bentley
Pollock
Little Crk.
White Sulphur
LA SALLE
Florien
Sandel
Bellwood
Kisatchie
Kurthwood
Flatwoods
Lena
Zimmerman
Boyce
Simpson
Slagle
Caney
VERNON
Leesville
Fal
La Camp
Hineston
Fullerton
Cravens
Tioga
Alexandria
Holloway
RAPIDES
Moorland
Center Pt.
Le Compte
Echo
Standard
Cheneyville
Bunkie
Meridian
Turkey Crk.
Eola
Evergreen
Cottonport
Hessmer
Mansura
Moncla
Marksville
Egg Bend
AVOYELLES
De Ridder
Merryville
BEAUREGARD
Bancroft
Singer
Hyatt
Longville
Union Hill
Pitkin
Hoy
Sugartown
Elizabeth
Oakdale
Glenmora
Forest Hill
Grant
Mittie
Simmons
Dry Creek
Beaver
United Gas
ALLEN
Oberlin
Reeves
Kinder
Elton
Basile
Blue Bayou Sprgs.
N. Basile
EVANGELINE
Pine Prairie
Reddel
Mamou
Chataignier
Eunice
Ville Platte
Chicot
Barbeck
Dubuisson
Morrow
Garland
Le Beau
Begg
ST. LANDRY
Washington
Opelousas
Lawtell
Swords
Pt. Barre
Arnaudville
Sunset
Bristol
Branch
Church Pt.
Bosco
Carencro
Lafayette
Gecho
Henderson
Scott
Duson
Rayne
ANSE LA BUTTE
LAFAYETTE
Broussard
ST. MARTIN
St. Martinville
N.E. St. Martinville
Sec. 28
Youngsville
Maurice
Andrews
Abbeville
VERMILION
Gueydan
W. Gueydan
Mallard Bay
Wright
Florence
Grand Lk.
Lk. Misere
Pure
Lk. Arthur
Morse
Midland
Egan
N.E. Egan
Crowley
Ebenezer
Esterwood
ACADIA
Iota
N. Iota
N. Crowley
Jennings
Evangeline
Roanoke
S. Roanoke
Riverside
Raymond
Tribly
Tepetate
China
Bayou Mallet
JEFFERSON DAVIS
Welsh
South Welsh
Lacassine
Hayes
Niblett Farms
Hanszen
Lock-Moor
Fenton
Woodlawn
Iowa
Lk. Charles
Gillis
Shell
Magnolia
CALCASIEU
English Bayou
Sulphur
Edgerley
Vinton
Niblett's Bluff
Lockport
Starks
N.W. Starks
Big Woods
Deweyville
De Quincy
Bunker Hill
Gist
Buhler
S. Lk. Charles
Hackberry
E. Hackberry
Big Lk.
Willow Lk.
Sweet Lk.
Calcasieu Lk.
St. Johns Island
Cameron
S.E. Calcasieu Lk.
Creole
Mud Lk.
CAMERON
Cameron Meadows
Johnson's Bayou
Black Bayou
Orange
E. Orange
S.W. Orange
ORANGE
North Vidor
Mauriceville
Vidor
Pt. Neches
Evadale
Sarah Gray
Buna
Kountze
Silsbee
HARDIN
Saratoga
Grigsby
Votaw
Bragg
Ariola
Sour Lk.
Toliver
Spear
Beaumont
Spindletop
Amelia
China
Nome
Gilbert Ranch
Sinclair-Prairie
Cheek
Fannett
Hamshire
JEFFERSON
Big Hill
La Belle
McFaddin
Pt. Arthur
Sabine Lake
Sabine Pass
Stanolind
Sun
Texas Empire
Sun-Yount-Lee

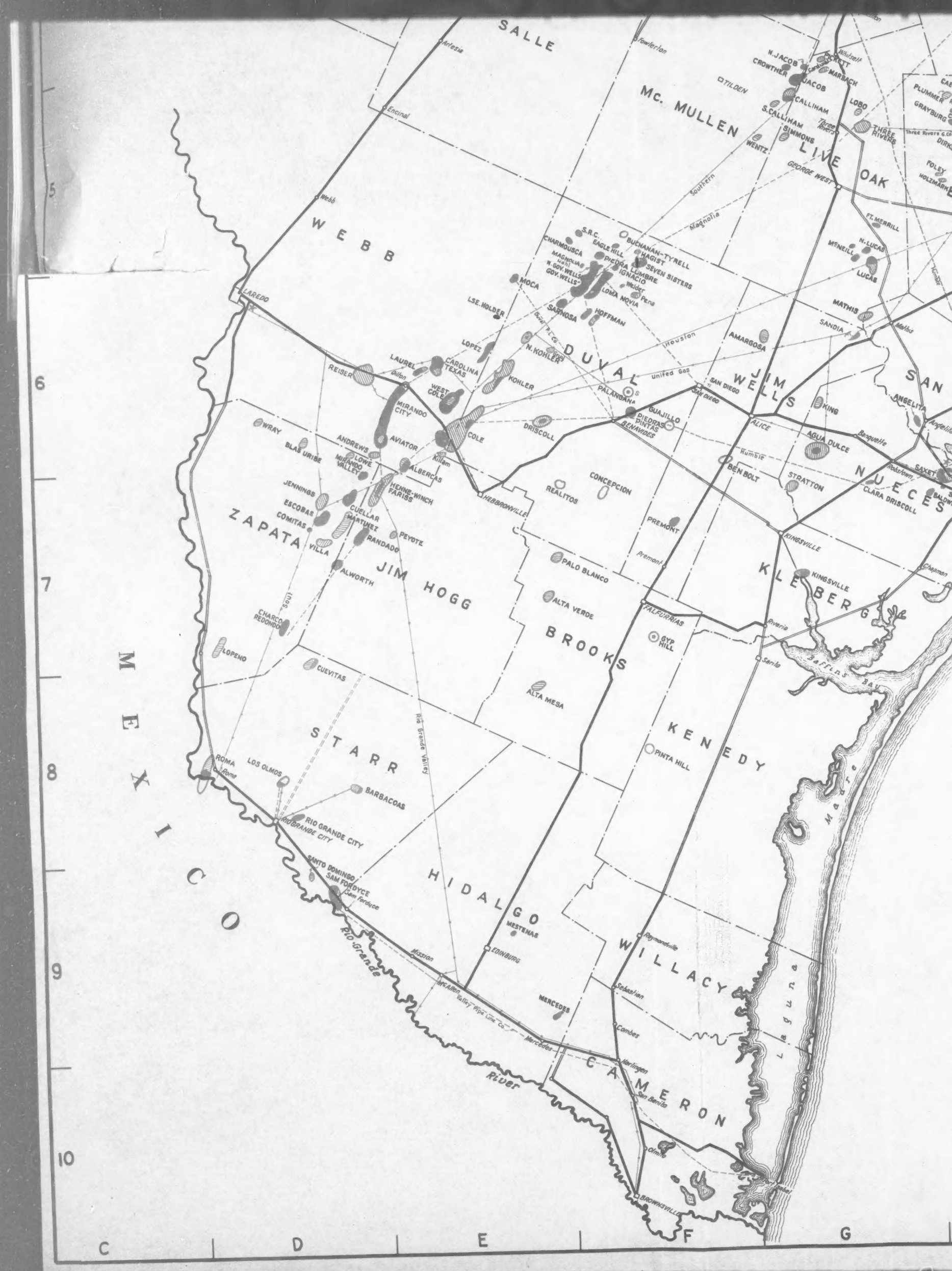
T U V W X

1 2 3 4 5 6

UNION
MOREHOUSE
LINCOLN
OUACHITA
MONROE
WEST CARROLL
EAST CARROLL
RICHLAND
JACKSON
CALDWELL
MADISON
TENSAS
CATAHOULA
LA SALLE
CONCORDIA
AVOYELLES
POINTE COUPEE
WEST FELICIANA
EAST FELICIANA
ST HELENA
WEST BATON ROUGE
EAST BATON ROUGE
TANGIPAHOA
WASHINGTON

MISSISSIPPI

Farmerville
Marion
Bernice
Spearsville
Bastrop
Beekman
Bonita
Gallion
Oak Grove
Kilbourne
Lk Providence
Floyd
Epps
Delhi
Rayville
Crew Lk.
Richland
Archibald
Waverly
Quebec
Marsh Ford
Tallulah
Winnsboro
Crowville
Clarks
Jonesboro
Columbia
Sikes
Old Newport
Urania
Tullos
Olla
Harrisonburg
Leland
Sicily Island
Vidalia
Ferriday
Troyanore
Jonesville
Rinehart
Manifest
Summerville
Rosefield
Ruby
Newellton
St. Joseph
Mississippi River
Marksville
Mansura
Moreauville
Bordelonville
Simmesport
Torras
Angola
Lettsworth
Waterloo
Melville
Krotz Springs
Lottie
Livonia
Opelousas
Port Barre
Grosse Tete
Ramah
Baton Rouge
Greenville Spgs.
Indian Mds.
Pine Grove
Grangeville
Clinton
Jackson
Slaughter
Plains
Fred
Chambers
Chipola
Liverpool
Greensburg
Fluker
Amite
Independence
Franklinton
Mt. Herman
Clifton
Bogalusa
Ormond
Albany
Livingston
Corbin
Hammond
Springs
Morganza
New Roads
Lake Maurepas
Pontchartrain
Bayou De Glaize
Bayou Henry
Choctaw
Bayou Bouillon
Plaquemine
University Blk


SALLE
Artesia
Fowlerton
Encinal
Webb
WEBB
LAREDO
Mc. MULLEN
TILDEN
N. JACOB
CROWTHER
JACOB
MARBACH
BICKETT
Whitsett
CALLIHAM
S. CALLIHAM
LOBO
SIMMONS
WENTZ
THREE RIVERS
Three Rivers
LIVE OAK
GEORGE WEST
Southern
Magnolia
Ft. MERRILL
McNEILL
N. LUCAS
LUCAS
MATHIS
SANDIA
Houston
AMARGOSA
S.R.C.
EAGLE HILL
BUCHANAN-TYRELL
HAGIST
SEVEN SISTERS
PIEDRA LUMBRE
IGNACIO
CHARMOUSCA
MAGNOLIA
W. GOV. WELLS
GOV. WELLS
MOCA
LOMA NOVIA
Welder
Pena
LSE. HOLDER
SARNOSA
HOFFMAN
N. KOHLER
LOPEZ
DUVAL
LAUREL
CAROLINA TEXAS
REISER
KOHLER
WEST COLE
MIRANDO CITY
COLE
DRISCOLL
PALANGANA
GUAJILLO
PIEDRAS PINTAS
BENAVIDES
Unified Gas
SAN DIEGO
JIM WELLS
KING
ALICE
AGUA DULCE
Banquette
Humble
BEN BOLT
STRATTON
SAN ANGELITA
Angelita
NUECES
Robstown
SAXET
CLARA DRISCOLL
BALDWIN
WRAY
BLAS URIBE
ANDREWS
LOWE
MIRANDO VALLEY
AVIATOR
ALBERCAS
Killam
JENNINGS
ESCOBAS
COMITAS
HENNE-WINCH
FARISS
CUELLAR
MARTINEZ
VILLA
RANDADO
PEYOTE
ZAPATA
JIM HOGG
ALWORTH
CONCEPCION
REALITOS
HEBBRONVILLE
PREMONT
Premont
PALO BLANCO
ALTA VERDE
BROOKS
KLEBERG
KINGSVILLE
Chapman
FALFURRIAS
GYP HILL
Riviera
Baffins Bay
Laguna Madre
CHARCO REDONDO
LOPENO
CUEVITAS
ALTA MESA
Rio Grande Valley
STARR
PINTA HILL
KENEDY
MEXICO
ROMA
Roma
LOS OLMOS
BARBACOAS
RIO GRANDE CITY
Rio Grande City
SANTO DOMINGO
SAM FORDYCE
Sam Fordyce
Rio Grande
River
Mission
HIDALGO
MESTENAS
EDINBURG
Mercedes
McAllen
Valley Pipe Line Co.
MERCEDES
Raymondville
WILLACY
Sebastian
Combes
Harlingen
San Benito
CAMERON
Olmito
BROWNSVILLE
5
6
7
8
9
10
C
D
E
F
G

TEXAS–LOUISIANA GULF COASTAL REGION

SHOWING OIL & GAS FIELDS & PROSPECTS, PIPE LINES, REFINERIES & PRINCIPAL HIGHWAYS

MAP PREPARED & COPYRIGHTED
THE OIL WEEKLY
HOUSTON, TEXAS
1936

DRAWN BY GEO. M. DOUGHERTY-GULF COAST ENG. CO.
HOUSTON, TEXAS

SCALE IN MILES
8 4 0 8 16 24 32 40 48 56

LEGEND

OIL FIELDS
- Salt Dome Type
- Probable Deep Salt Dome
- Structures Other Than Regular Salt Dome

OTHER FIELDS
- Sulphur Prod'n. On Salt Dome
- Gas Production
- Oil and Gas Production

OIL FIELD PROSPECTS (GEOLOGICAL OR GEOPHYSICAL)
- Known Salt Dome
- Salt Dome Type Prospect
- Prospect Other Than Salt Dome Type

---Oil Pipe Lines | ——Gas Pipe Lines | ★ Refineries | ━━ Paved or Hardsurfaced Rds. | ═ Shell or Gravel Rds. | ═ Unimproved Rds.

GULF COASTAL REGION

...TS, PIPE LINES, REFINERIES & PRINCIPAL HIGHWAYS

...PARED & COPYRIGHTED
OIL WEEKLY
...OUSTON, TEXAS
1936
...D. M. DOUGHERTY-GULF COAST ENG. CO.
...OUSTON, TEXAS

SCALE IN MILES

...6 24 32 40 48 56

LEGEND

- ...S Sulphur Prod'n. On Salt Dome
- ...S Gas Production
- Oil and Gas Production

OIL FIELD PROSPECTS (GEOLOGICAL OR GEOPHYSICAL)

- Known Salt Dome
- Salt Dome Type Prospect
- Prospect Other Than Salt Dome Type

Paved or Hardsurfaced Rds. | Shell or Gravel Rds. | Unimproved Rds.

Tex

A
Ace ...3-O
Addicks ...4-M
Agua Dulce ...6-G
Albercas ...6-E
Aldine ...4-M
Algoa ...5-M
Allen ...6-L
Alleyton ...4-K
Almeda ...5-M
Altair ...4-K
Alta Mesa ...6-E
Alta Verde ...7-F
Alta Vista ...3-G
Alvin ...5-M
Alworth ...7-D
Amargosa ...6-G
Amelia ...5-O
Anahuac ...5-O-N
Anchor ...6-L
Andrews ...6-D
Angelita ...6-G
Angleton ...6-M
Aransas ...6-H
Arcola ...5-M
Ariola ...5-O
Ashwood ...5-L
Austin Bayou ...6-M
Aviator ...6-E

B
Baldwin ...6-H
Bammel ...4-M
Barbacosa ...8-D
Barbers Hill ...5-N
Batson ...4-O
Battle Ground ...5-N
Bay City ...6-K
Beasley ...4-L
Beeville ...5-G
Bellaire ...4-M
Ben Bolt ...6-F
Big Creek ...5-L
Big Hill (Jefferson) ...5-O
Big Hill (Matagorda) ...6-K
Black Bayou ...5-P
Blas Uribi ...6-D
Bleakwood ...4-P
Blessing ...6-K
Bloomington ...8-I
Blue Basin ...5-K
Blue Ridge ...5-M
Boling ...5-L
Bolivar Peninsula ...6-N
Bonney ...5-M
Bonnie View ...6-H
Bragg ...4-O
Branyon ...3-I
Brenham ...3-L
Brown-Lyles Surveys ...5-H
Bryan Mound ...6-L
Buchanan ...3-I
Buchanan-Tyrrell ...5-F
Buckeye ...6-K
Buffalo ...1-N
Buna ...4-P
Bunker Hill ...4-P
Burnell ...4-H
Burnett Bay ...5-N
Byersville ...2-J

C
Cabeza Creek ...5-H
Caesar ...5-H
California-Grey ...6-E
Calliham ...5-G
Carlos ...2-M
Carolina-Texas ...6-E
Carroll ...3-J
Cat Springs ...4-L
Cedar Bayou ...5-N
Cedar Creek ...2-J
Cedar Lane ...6-L
Chapman ...2-K
Charamousca ...5-F
Charco-Redondo ...7-D
Cheek ...5-O
Chenango ...5-L
China ...5-O
Chireno ...2-P
Citrus Grove ...6-K
Clara Driscoll ...6-G
Clay Creek ...3-L
Clemens ...6-L
Cleveland ...4-N
Clute ...6-L
Cockburn ...5-M
Cold Springs ...3-N
Colt ...6-E
College Port ...6-K
Colletto Creek ...5-I
Colmesmiel ...3-P
Comitas ...7-D
Concepcion ...7-F
Conroe ...4-N
Cooksey ...3-H
Corrigan ...8-3-O
Cosden ...5-H
Cotton Lake ...5-N
Cove ...5-N
Crosby ...4-N
Crowder ...4-G
Crowther ...4-G
Cuellar ...7-D
Cuevitas ...8-D

D
Dacus ...3-M
Dale ...3-I
Damon Mound ...5-L
Danbury ...6-M
Darst Creek ...3-I
Davis Hill ...4-N
Deering ...4-M
Devers ...5-O
Devils Elbow
Deer Park
Deweyville
Diamond Hall
Dickinson
Dirks
Doering
Double Gum
Driscoll
Dunlap
Eagle Hill
Eagle Lake
Eagle Nest I
East Bernard
East Goliad
East Katy
East Montgom
East Yoakum
Eckert
Edna
Escobas
Esperson
Eureka
Evadale
Ft. Merrill
Felecia
Fannett
Fergusson's Cr
Floresville
Foley
Fordtram
Fostoria
Fox
Francis Moor
Friendswood
Francitas
Frenno
Fulsher
Galveston Bay
Ganado
Garwood
Gas Ridge
Genoa
Gist
Glenflora
Goliad
Goodwin
Goose Creek
Government W
Grayburg
Green's Lake
Greta
Grigsby
Guajillo
Gulf-O'Conno
Gyp Hill

Louis

A
Abbeville ...6-S
Andrews ...6-S
Anse La Butte ...6-S
Arcadia ...1-T
Avery Island ...7-S

B
Bancroft ...4-O
Barataria ...8-V
Batiste ...9-W
Bay Marchand ...9-V
Bayou Blue ...6-T
Bayou Blue Springs ...5-R
Bayou Bouillon ...6-T
Bayou de Glaise ...6-T
Bayou Henry ...6-T
Bayou Mallet ...5-S
Bayou Terrebonne ...8-U
Bay St. Elaine ...9-U
Belle Island ...8-T
Benson ...2-R
Big Woods ...5-O
Big Lake ...6-O
Bisteneau ...1-S
Black Bayou ...6-P
Blue Lake ...2-O
Bosco ...6-S
Branch ...6-S
Bristol ...6-S
Bull Bayou ...1-R

C
Caillou Island ...9-U
Calcasieu Lake ...6-O
Cameron ...6-O
Cameron Meadows ...6-P
Carencro ...6-S
Cedar Creek ...2-T
Chachahoula ...8-U
Charenton ...7-T
Chestnut ...2-S
China ...5-R
Choctaw ...6-T
Church Point ...5-S
Clear Lake ...2-S
Coochie Brake ...2-S
Cote Blanche ...7-S
Convent ...7-U
Covington ...7-U
Crichton ...1-S

D
Darrow ...7-U
DeQuincey ...4-O
Dog Lake ...9-U
Donaldsonville ...7-U
Dry Creek
Duson
East Bay Junc
East Hackber
East Lake Ch
East Orange
Ebenezer
Edgerley
Egan
Elm Grove
Esterwood
English Bayou
Eunice
Fausse Point
Floyd
Four Island
Garden Island
Garland
Gecko
Gillis
Gibsland
Glenwild
Goldonna

K L M N O

Texas Gulf Coastal Region Oil and Gas Fields and Prospects

- Devils Elbow 6-L
- Deer Park 5-M
- Deweyville 5-P
- Diamond Half 4-H
- Dickinson 5-M
- Dirks 4-G
- Doering 3-E
- Double Gum Island 5-O
- Driscoll 6-E
- Dunlap 3-I

E

- Eagle Hill 5-F
- Eagle Lake 4-K
- Eagle Nest Lake 5-L
- East Bernard 4-L
- East Goliad 5-I
- East Katy 4-L
- East Montgomery 3-M
- East Yoakum 4-I
- Eckert 3-H
- Edna 5-J
- Escobas 7-D
- Esperson 5-N
- Eureka 4-M
- Evadale 4-P

F

- Ft. Merrill 5-G
- Felecia 5-O
- Fannett 5-O
- Ferguson's Crossing 2-L
- Floresville 4-H
- Foley 5-G
- Fordtram 4-I
- Fostoria 3-N
- Fox 6-I
- Francis Moore 5-M
- Friendswood 5-M
- Francitas 5-K
- Fresno 5-M
- Fulshear 4-L

G

- Galveston Bay 5-M-N
- Ganado 5-J
- Garwood 4-K
- Gas Ridge 3-G
- Genoa 5-M
- Gist 5-P
- Glenflora 5-K
- Goliad 5-I
- Goodwin 3-M
- Goose Creek 5-N
- Government Wells 6-F
- Grayburg 5-H
- Green's Lake 6-M
- Greta 6-I
- Grigsby 4-O
- Guajillo 6-F
- Gulf-O'Connor 5-J
- Gyp Hill 7-F

H

- Hagist 5-F
- Hale 4-N
- Halls Bayou 6-M
- Hamshire 5-O
- Hankamer 5-O
- Hardin 4-N
- Harlem Clodine 4-5-L
- Hastings 5-M
- Hawkinsville 6-L
- Heiskell 5-N
- Henne-Winch-Fariss 7-E
- High Island 6-O
- Hilbig 3-J
- Hilje 5-K
- Hillister 4-P
- Hitchcock 6-M
- Hockley 4-L
- Hoffman 5-F
- Holzmark 5-G
- Hords Creek 4-H
- Hoskins 6-M
- Hot Wells 4-L
- Hull 5-O
- Humble 4-N
- Hungerford 5-L

I

- Ignacio 6-F
- Industry 3-K

J

- Jackson Ranch 6-N
- Jacob 4-G
- Jefferson Coast 6-O
- Juanita 6-K

K

- Katy 4-L
- Keeran 5-J
- Keithton 3-O
- Kemper 5-I
- Kenefick 4-N
- Kenney 3-L
- Keno-Excelsior 4-N
- Killam 6-E
- Killam-Bruni 6-D
- Kimbro 2-J
- King 6-G
- Kingsville 7-G
- Kittrell 2-N
- Kohler 6-E
- Kountz 4-O
- Kurten 2-L

L

- La Belle 5-O
- Larremore 3-I
- Latexo 1-O
- Laurel 6-E
- Leah 5-K
- Leaseholders 6-E
- Legrand 4-P
- Little Pine Island 5-O
- Liverpool 5-M
- Lobo 4-G
- Lockwood 5-L
- Lochridge 5-L
- Lolita 5-J
- Loma Novia 5-F
- Lone Oak 3-H
- Long Lake 1-N
- Long Point 5-L
- Lopena 7-D
- Lopez 6-E
- Los Burros 7-C
- Los Olmos 8-D
- Lost Lake 5-N
- Louise 5-K
- Lowe 6-D
- Lucas 5-G
- Luling 3-I
- Lytton Springs 2-I

M

- Mad Island 6-K
- Magnet 5-K
- Magnolia-Hahl 6-F
- Mancha 4-K
- Manford 3-I
- Manvel 5-M
- Marbach 5-G
- Marianna 6-I
- Markham 5-K
- Martha 4-N
- Martinez 7-D
- Matagorda 5-K
- Mathis 6-O
- Mauritz 5-J
- McFaddin 6-O
- McNeil 5-G
- Mercedes 9-E
- Mestenas 8-E
- Midfield 5-K
- Minerva 2-K
- Mirando City 6-E
- Mirando Valley 6-D
- Mission 3-G
- Moca 6-E
- Montgomery 3-N
- Morales 5-J
- Moss Bluff 5-N
- Mt. Houston 4-M
- Mykawa 5-M

N

- Nacogdoches 2-P
- Manda 2-J
- Nash 5-L
- Needville 5-L
- Nichols 3-M
- Nome 5-O
- Normanna 5-H
- North Cleveland 3-N
- North Dale 3-J
- North Dayton 4-N
- North El Campo 5-K
- North Government Wells 6-F
- North Jacob 5-G
- North Kohler 6-E
- North Lucas 5-G
- North Markham 5-K
- North Pettus 5-H
- North Vidor 5-P
- Northeast Alleyton 4-K
- Northeast Weimar 3-K
- Northwest Aldine 4-M
- Nursery 5-I

O

- Oakwood 1-N
- O'Conner 6-I
- Ogburn 4-M
- Old Ocean 6-L
- Orange 5-P
- Orchard 4-L
- Ottine 3-I
- Oyster Bayou 6-N

P

- Palacios 6-K
- Palangana 6-F
- Palo Blanco 7-F
- Peach Point 6-M
- Pearland 5-M
- Pearsall 3-F
- Pettus 5-H
- Peyote 7-E
- Pickering 1-O
- Pickett 4-G
- Piedra Lumbre 5-F
- Piedras Pintas 6-F
- Pierce Estate 5-L
- Pierce Junction 5-M
- Pilant Lake 5-L
- Pinehurst 3-M
- Pinita Hills 8-F
- Placedo 5-I
- Pledger 5-L
- Plymouth 6-H
- Plummer 4-G
- Poole Ranch 6-L
- Port Lavaca 6-I
- Port Neches 5-P
- Premont 7-F

Q

- Quintana 6-I

R

- Rabb Ridge 5-L
- Raccoon Bend 3-L
- Randado 7-D
- Rattlesnake Mound 6-M
- Raver 4-K
- Realitos 7-F
- Reels & Trobough 4-M
- Red Bluff 5-N
- Refugio 6-H
- Reganville 3-O
- Reiser 6-D
- Richmond 5-L
- Rid 5-K
- Rio Grande City 8-D
- Rockdale 2-K
- Rock Island 4-K
- Rockland 3-P
- Roma 8-D
- Rosenburg 5-L
- Rumayor 4-O
- Russek 4-J
- Rusk 1-O
- Rutledge 5-G
- Ryan Surveley 4-J

S

- Sal Mar 3-I
- Salt Cedars 5-N
- Salt Flat 3-I
- Sam Fordyce 8-D
- Sandia 6-G
- San Diego 6-G
- San Felipe 4-L
- Santa Clara-Welder 5-F
- Santo Domingo 9-D
- Santos Survey 6-H
- Sarah Gray 5-P
- Saratoga 4-O
- Sargent 6-L
- Sarrosa 6-F
- Satsuma 4-M
- Saxet 7-G
- Saxet Heights 6-H
- Schimmell-Botes 3-I
- Seabreeze 5-O
- Security 3-N
- Segno 4-O
- Seven Sisters 5-F
- Shelbyville 2-Q
- Sheldon 4-N
- Shepherd 3-O
- Sheppards Mott 6-K
- Silsbee 4-P
- Simmons 4-G
- Sinton 6-H
- Slick 5-H
- Smithers Lake 5-L
- Smith-Pena 6-F
- Smith Point 5-N
- Somerset 3-G
- Sour Lake 5-O
- South Bellville 4-L
- South Callihan 4-G
- South Darst Creek 3-I
- South Fresno 5-M
- South Liberty 5-N
- South Medina 3-G
- South Montgomery 3-M
- Southeast Goose Creek 5-N
- Southeast Wharton 5-K
- Southwest Orange 5-P
- Southwest Pettus 5-H
- Spanish Camp 5-K
- Spear 5-P
- Spindle Top 5-P
- Splendora 4-N
- Spurger 4-P
- S. R. C. 5-F
- Stratton 7-G
- Stratton Ridge 6-L
- Sugarland 5-L
- Sunshine 3-O

T

- Taft 6-H
- Tellerner 5-I
- Texas City 6-N
- Thrall 2-K
- Three Rivers 5-G
- Toliver 5-O
- Tomball 4-M
- Tomoconnor 6-H
- Tuleta 5-H
- Turtle Bay 5-N

V

- Vanderbilt 5-I
- Van Vleck 5-K
- Vidor 5-P
- Villa 7-D
- Von Ormy 3-G
- Votaw 4-O

W

- Waller 3-M
- Weimar 3-K
- Weiss 5-H
- Wentz 4-G
- West Cole 6-E
- West Columbia 5-L
- West Conroe 3-M
- West Cotton Lake 5-N
- West Hardin 4-N
- West Markham 5-K
- West Tuleta 5-H
- Wheelock 1-L
- White Point 6-H
- White Ranch 5-O
- Wild Peach 4-L
- Willis 3-M
- Withers 4-K
- Winnie 5-O
- Woodville 3-P
- Wray 6-D

Y

- Yarboro 3-L
- Yoast 2-J
- Yturri-Southtown 3-G

Louisiana Gulf Coastal Region Oil and Gas Fields and Prospects

- Dry Creek 4-R
- Duson 6-S

E

- East Bay Junop 9-T
- East Hackberry 6-Q
- East Lake Charles 5-R
- East Orange 5-P
- Ebenezer 6-S
- Edgerley 5-Q
- Egan 6-R
- Elm Grove 1-R
- Esterwood 6-S
- English Bayou 5-Q
- Eunice 5-S

F

- Fausse Point 7-T
- Floyd 2-V
- Four Island 9-U

G

- Garden Island Bay 10-X
- Garland 5-T
- Gecho 6-T
- Gillis 5-Q
- Gibsland 1-S
- Glenwild 7-T
- Goldonna 2-S
- Grassey Lake 7-T
- Gueydan 6-R

H

- Hackberry 6-Q
- Haves 6-R
- Henderson 6-T
- Hanszen 6-Q-R
- Holly 1-R
- Houma 8-U
- Houma Townsite 8-U

I

- Iota 5-R
- Iowa 5-R

J

- Jeanerette 7-T
- Jefferson Island 6-S
- Jennings 5-R
- Johnson's Bayou 6-P

K

- Kings 1-S

L

- Labadieville 7-U
- Lafayette 6-S
- Lafitte 8-V
- Lake Barre 9-U
- Lake Boeuf 8-U
- Lake Bully Camp 9-V
- Lake De Cade 8-T-U
- Lake Hermitage 9-W
- Lake Lery 8-W
- Lake Misere 6-R
- Lake Mongouloi 6-T
- Lake Netherlands 8-V
- Lake Pelto 9-U
- Lake Salvador 8-V
- Lake Washington 9-W
- Leeville 9-V
- Lock-Moore 5-R
- Lockport 5-Q

M

- Mallard Bay 6-R
- Midland 6-R
- Minor 8-U
- Mittie 4-R
- Monroe 1-U
- Morgan City 8-T
- Mud Lake 6-P

N

- Naborton 1-R
- Napoleonville 7-U
- New Iberia 7-T
- Niblettz Bluff 5-Q
- Niblett Farms 6-R
- North Basile 5-S
- North Iota 5-S
- North Slidell 7-W
- Northeast Egan 6-S
- Northeast St. Martinville 6-T
- Northwest Starks 5-P

O

- Olevier 8-W

P

- Patterson 7-T
- Pine Prairie 5-S
- Pleasant Hill 2-R
- Pointe Au Fer 8-T
- Port Barre 5-T
- Potash 9-W
- Price's 2-S
- Prothro 1-S

Q

- Quarantine 10-X

R

- Ramah 6-T
- Rayburn's 1-S
- Reeves 5-R
- Reddell 5-S
- Richland 2-U
- Riverside 5-R
- Roanoke 5-R
- Roy 2-S

S

- St. John's Island 6-Q
- St. Martinville 6-S
- St. Rose 8-V
- Salt Springs 2-S
- Section 28 ..... 6-T
- Shell Beach 8-W
- Sikes 2-T
- Slidell 7-X
- Sorrento 7-U
- South Abbeville 7-S
- South Jennings 6-R
- South Lake Charles 5-Q
- South Roanoke 6-R
- South Welsh 5-R
- Southeast Calcasieu Lake 6-Q
- Southeast Plaquemines 6-U
- Spanish Lake 6-S
- Spider 1-R
- Starks 5-Q
- Sulphur 5-Q
- Sunset 6-S
- Sweet Lake 6-Q

T

- Tepetate 5-S

U

- University Block 6-U
- Urania 3-T

V

- Vacherie 1-S
- Valentine 8-U
- Venice 10-W
- Vermilion Bay 7-S
- Vinton 5-Q

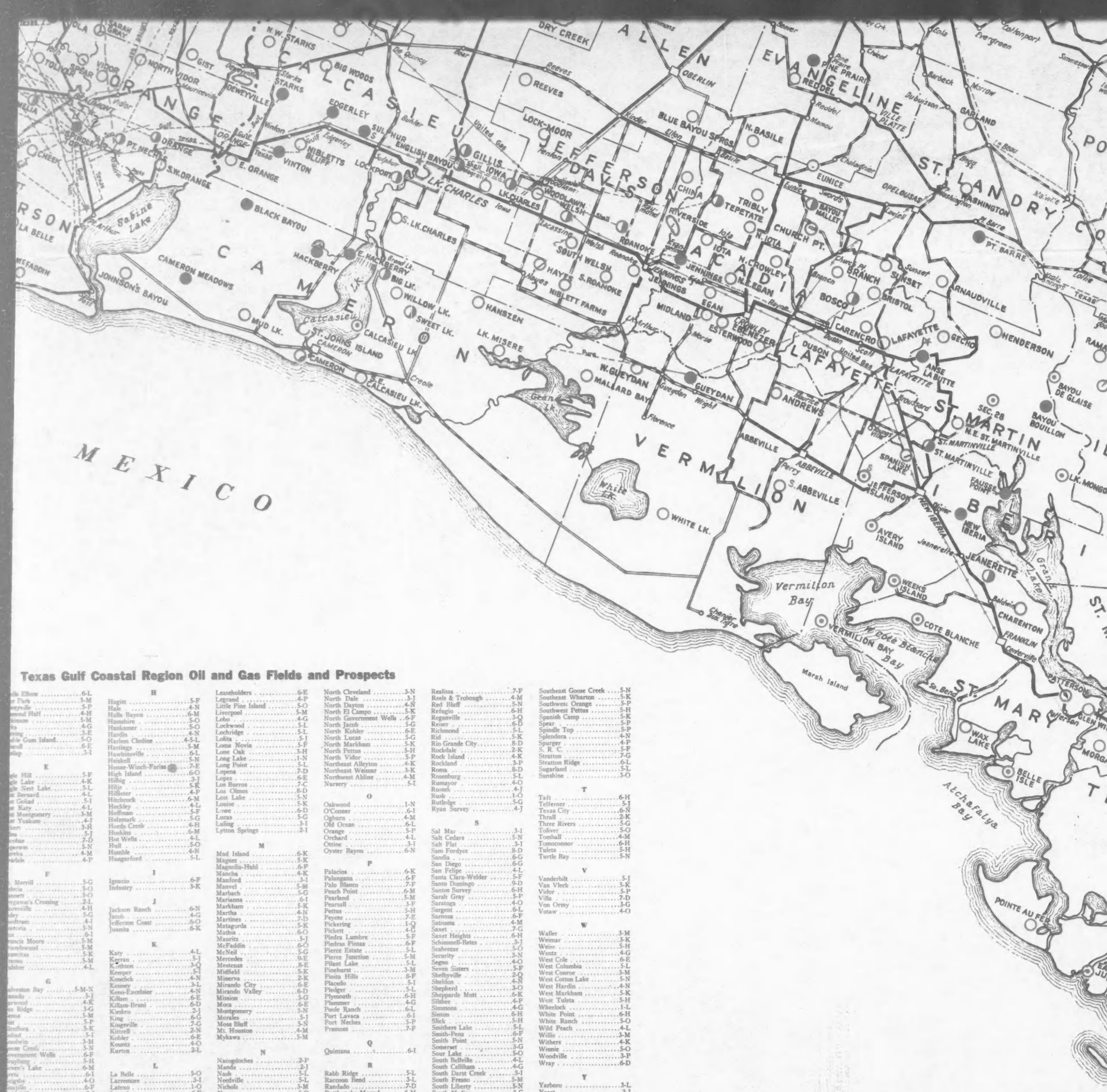
W

- Washington 5-T
- Wax Lake 8-T
- Weeks Island 7-S
- Welsh 5-R
- West Gueydan 6-R
- West Pontchartrain 7-V
- White Castle 7-U
- White Lake 7-R
- Willow Lake 5-Q
- Winnfield 2-S
- Woodlawn 5-R

Z

- Zwolle 2-R

P | Q | R | S | T



Texas Gulf Coastal Region Oil and Gas Fields and Prospects

- Hills Elbow 6-L
- ...r Park 5-M
- ...erville 5-P
- ...mond Half 4-H
- ...ficiana 5-M
- ...ks 4-G
- ...ring 3-E
- ...ffle Gum Island 5-O
- ...well 6-F
- ...hop 3-I

E

- ...gle Hill 5-F
- ...gle Lake 4-K
- ...gle Nest Lake 5-L
- ...t Bernard 4-L
- ...t Goland 5-I
- ...t Katy 4-L
- ...t Montgomery 3-M
- ...t Yoakum 4-J
- ...bert 3-H
- ...na 5-J
- ...coline 7-D
- ...peruna 5-N
- ...reka 4-M
- ...vdale 4-P

F

- ...r. Merrill 5-G
- ...delcia 5-O
- ...nnett 5-O
- ...rgeson's Crossing 2-L
- ...resville 4-H
- ...ley 5-G
- ...ndham 4-O
- ...storia 3-N
- ...x 6-I
- ...ancis Moore 5-M
- ...ewood 5-M
- ...ancitas 5-K
- ...esno 5-M
- ...lusher 4-L

G

- ...alveston Bay 5-M-N
- ...anado 5-J
- ...arwood 4-K
- ...as Ridge 3-G
- ...enos 5-M
- ...ist 5-P
- ...lenflora 5-K
- ...oliad 5-I
- ...oodwin 3-M
- ...oose Creek 5-N
- ...overnment Wells 6-F
- ...brayburg 5-H
- ...reen's Lake 6-M
- ...retz 6-I
- ...rigsby 4-O
- ...uajillo 6-F
- ...ulf-O'Connor 5-I
- ...opp Hill 7-F

H

- Hagist 5-F
- Hale 4-N
- Halls Bayou 6-M
- Hamshire 5-O
- Hankamer 5-O
- Hardin 4-N
- Harlem Clodine 4-5-L
- Hastings 5-M
- Hawkinsville 5-L
- Heiskell 5-N
- Henne-Winch-Fariss 7-E
- High Island 6-O
- Hilbig 3-J
- Hilje 5-K
- Hillister 4-P
- Hitchcock 6-M
- Hockley 4-L
- Humble 4-N
- Hungerford 5-L

I

- Ignacio 6-F
- Industry 3-K

J

- Jackson Ranch 6-N
- Jacob 4-O
- Jefferson Coast 6-O
- Juanita 6-K

K

- Katy 4-L
- Kegran 5-J
- Kelthton 5-O
- Kemper 5-I
- Kenelick 4-N
- Kenney 3-L
- Keno-Excelsior 4-N
- Killam 6-E
- Killam-Bruni 6-D
- Kimbro 2-J
- King 6-G
- Kingsville 7-G
- Kittrell 2-N
- Kohler 6-E
- Kountz 4-O
- Kurten 2-L

L

- La Belle 5-O
- Larrenore 3-I
- Latexo 1-O
- Laurel 6-E
- Leah 5-K
- Leaseholders 6-E
- Legrand 4-P
- Little Pine Island 5-O
- Liverpool 5-M
- Lobo 4-G
- Lockwood 5-L
- Lochridge 5-L
- Lolita 5-F
- Loma Novia 5-F
- Lone Oak 3-H
- Long Lake 1-N
- Long Point 5-L
- Lopeno 7-D
- Lopez 6-E
- Los Burros 7-C
- Los Olmos 8-D
- Lost Lake 5-N
- Louise 5-K
- Lowe 6-D
- Lucas 5-G
- Luling 3-I
- Lytton Springs 2-I

M

- Mad Island 6-K
- Magnet 5-K
- Magnolia-Hahl 6-F
- Mancha 4-K
- Manford 3-I
- Manvel 5-M
- Marbach 5-G
- Marianna 6-I
- Markham 5-K
- Martha 4-N
- Martinez 7-D
- Matagorda 5-K
- Mathis 6-O
- Mauritz 5-I
- McFaddin 6-O
- McNeil 5-G
- Mercedes 9-E
- Mestenas 8-E
- Midfield 5-K
- Minerva 2-K
- Mirando City 6-E
- Mirando Valley 6-D
- Mission 3-G
- Moca 6-E
- Montgomery 3-N
- Morales 5-I
- Moss Bluff 5-N
- Mt. Houston 4-M
- Mykawa 5-M

N

- Nacogdoches 2-P
- Manda 2-J
- Nash 5-L
- Needville 5-L
- Nichols 3-M
- Nome 5-O
- Normanna 5-H
- North Cleveland 3-N
- North Dale 3-I
- North Dayton 4-N
- North El Campo 5-K
- North Government Wells 6-F
- North Jacob 5-G
- North Kohler 6-E
- North Lucas 5-G
- North Markham 5-K
- North Pettus 5-H
- North Vidor 5-P
- Northeast Alleyton 4-K
- Northeast Weimar 3-K
- Northwest Aldine 4-M
- Nursery 5-I

O

- Oakwood 1-N
- O'Conner 6-I
- Ogburn 4-M
- Old Ocean 6-L
- Orange 5-P
- Orchard 4-L
- Ottine 3-I
- Oyster Bayou 6-N

P

- Palacios 6-K
- Palangana 6-F
- Palo Blanco 7-F
- Peach Point 6-M
- Pearland 5-M
- Pearsall 3-F
- Pettus 5-H
- Peyote 7-E
- Pickering 1-O
- Pickett 4-G
- Piedra Lumbre 5-F
- Piedras Pintas 6-F
- Pierce Estate 5-L
- Pierce Junction 5-M
- Pilant Lake 5-L
- Pinehurst 3-M
- Pinita Hills 8-F
- Placedo 5-I
- Pledger 5-L
- Plymouth 6-H
- Plummer 4-G
- Poole Ranch 6-L
- Port Lavaca 6-I
- Port Neches 5-P
- Fremont 7-F

Q

- Quintana 6-I

R

- Rabb Ridge 5-L
- Raccoon Bend 3-L
- Randado 7-D
- Rattlesnake Mound 6-M
- Raver 4-K
- Realitos 7-F
- Reels & Trobough 4-M
- Red Bluff 5-N
- Refugio 6-H
- Reganville 3-Q
- Reiser 6-D
- Richmond 5-L
- Rid 5-K
- Rio Grande City 8-D
- Rockdale 2-K
- Rock Island 4-K
- Rockland 3-P
- Roma 8-D
- Rosenburg 5-L
- Rumayor 4-O
- Russek 4-J
- Rusk 1-O
- Rutledge 5-G
- Ryan Survey 4-J

S

- Sal Mar 3-I
- Salt Cedars 5-N
- Salt Flat 3-I
- Sam Fordyce 8-D
- Sandia 6-G
- San Diego 6-G
- San Felipe 4-L
- Santa Clara-Welder 5-F
- Santo Domingo 9-D
- Santos Survey 6-H
- Sarah Gray 5-P
- Saratoga 4-O
- Sargent 6-L
- Sarnosa 6-F
- Satsuma 4-M
- Saxet 7-G
- Saxet Heights 6-H
- Schimmell-Bates 3-J
- Seabreeze 5-O
- Security 3-N
- Segno 4-O
- Seven Sisters 5-F
- Shelbyville 2-Q
- Sheldon 4-N
- Shepherd 3-O
- Sheppards Mott 6-K
- Silsbee 4-P
- Simmons 4-G
- Sinton 6-H
- Slick 5-H
- Smithers Lake 5-L
- Smith-Pena 6-F
- Smith Point 5-N
- Somerset 3-G
- Sour Lake 5-O
- South Bellville 4-L
- South Calliham 4-G
- South Darst Creek 3-I
- South Fresno 5-M
- South Liberty 5-N
- South Medina 3-G
- South Montgomery 3-M
- Southeast Goose Creek 5-N
- Southeast Wharton 5-K
- Southwest Orange 5-P
- Southwest Pettus 5-H
- Spanish Camp 5-K
- Spear 5-P
- Spindle Top 5-P
- Splendora 4-N
- Spurger 4-P
- S. R. C. 5-F
- Stratton 7-G
- Stratton Ridge 6-L
- Sugarland 5-L
- Sunshine 3-O

T

- Taft 6-H
- Telferner 5-J
- Texas City 6-N
- Thrall 2-K
- Three Rivers 5-G
- Toliver 5-O
- Tomball 4-M
- Tomoconnor 6-H
- Tuleta 5-H
- Turtle Bay 5-N

V

- Vanderbilt 5-J
- Van Vleck 5-K
- Vidor 5-P
- Villa 7-D
- Von Ormy 3-G
- Votaw 4-O

W

- Waller 3-M
- Weimar 3-K
- Weiss 5-H
- Wentz 4-G
- West Cole 6-E
- West Columbia 5-L
- West Conroe 3-M
- West Cotton Lake 5-N
- West Hardin 4-N
- West Markham 5-K
- West Tuleta 5-H
- Wheelock 1-L
- White Point 6-H
- White Ranch 5-O
- Wild Peach 4-L
- Willis 3-M
- Withers 4-K
- Winnie 5-O
- Woodville 3-P
- Wray 6-D

Y

- Yarboro 3-L
- Yoast 2-J
- Yturri-Southtown 3-G

Louisiana Gulf Coastal Region Oil and Gas Fields and Prospects

- ...ry Creek 4-R
- ...Dason 6-S

E

- East Bay Junop 9-T
- East Hackberry 6-Q
- East Lake Charles 5-R
- East Orange 5-P
- Ebenezer 6-S
- Edgerley 5-O
- Egan 6-R
- Elm Grove 1-R
- Esterwood 6-S
- English Bayou 5-Q
- Eunice 5-S

F

- Fausse Point 7-T
- Floyd 2-V
- Four Island 9-U

G

- Garden Island Bay 10-X
- Garland 5-T
- Gecho 6-T
- Gillis 5-Q
- Girouard 1-S
- Glenwild 7-T
- Goldonna 2-S
- Grassey Lake 7-T
- Gueydan 6-R

H

- Hackberry 6-Q
- Haves 6-R
- Henderson 6-T
- Hansen 6-Q-R
- Holly 1-R
- Houma 8-U
- Houma Townsite 8-U

I

- Iota 5-R
- Iowa 5-R

J

- Jeanerette 7-T
- Jefferson Island 6-S
- Jennings 5-R
- Johnson's Bayou 6-P

K

- Kings 1-S

L

- Labadieville 7-U
- Lafayette 6-S
- Lafitte 6-V
- Lake Barre 9-U
- Lake Boeuf 8-U
- Lake Bully Camp 9-V
- Lake De Cade 8-T-U
- Lake Hermitage 9-W
- Lake Lery 8-W
- Lake Misere 6-R
- Lake Mongoulois 6-T
- Lake Netherlands 8-V
- Lake Pelto 9-U
- Lake Salvador 8-V
- Lake Washington 9-W
- Leeville 9-V
- Lock-Moore 5-R
- Lockport 5-Q

M

- Mallard Bay 6-R
- Midland 6-R
- Minor 8-U
- Mittie 4-R
- Monroe 1-U
- Morgan City 8-T
- Mud Lake 6-P

N

- Naborton 1-R
- Napoleonville 7-U
- New Iberia 7-T
- Niblett's Bluff 5-Q
- Niblett Farms 6-R
- North Basile 5-S
- North Iota 5-S
- North Slidell 7-W
- Northeast Egan 6-S
- Northeast St. Martinville 6-T
- Northwest Starks 5-P

O

- Olevier 8-W

P

- Patterson 7-T
- Pine Prairie 5-S
- Pleasant Hill 2-R
- Pointe Au Fer 8-T
- Port Barre 5-T
- Potash 9-W
- Price's 2-S
- Prothro 1-S

Q

- Quarantine 10-X

R

- Ramah 6-T
- Rayburn's 1-S
- Reeves 5-R
- Reddell 5-S
- Richland 2-U
- Riverside 5-R
- Roanoke 5-R
- Roy 2-S

S

- St. John's Island 6-Q
- St. Martinville 6-S
- St. Rose 8-V
- Salt Springs 2-S
- Section 28 ..... 6-T
- Shell Beach 8-W
- Sikes 2-T
- Slidell 7-X
- Sorrento 7-U
- South Abbeville 7-S
- South Jennings 6-R
- South Lake Charles 5-Q
- South Roanoke 6-R
- South Welsh 5-R
- Southeast Calcasieu Lake 6-Q
- Southeast Plaquemines 6-U
- Spanish Lake 6-S
- Spider 1-R
- Starks 5-Q
- Sulphur 5-Q
- Sunset 6-S
- Sweet Lake 6-Q

T

- Tepetate 5-S

U

- University Block 6-U
- Urania 3-T

V

- Vacherie 1-S
- Valentine 8-U
- Venice 10-W
- Vermilion Bay 7-S
- Vinton 5-Q

W

- Washington 5-T
- Wax Lake 8-T
- Weeks Island 7-S
- Welsh 5-R
- West Gueydan 6-R
- West Pontchartrain 7-V
- White Castle 7-U
- White Lake 7-R
- Willow Lake 5-Q
- Winnfield 2-S
- Woodlawn 5-R

Z

- Zwolle 2-R

P | Q | R | S | T

MISSISSIPPI

POINTE COUPEE
WEST FELICIANA
EAST FELICIANA
ST. HELENA
WASHINGTON
WEST BATON ROUGE
BATON ROUGE
LIVINGSTON
TANGIPAHOA
ST. TAMMANY
IBERVILLE
ASCENSION
ASSUMPTION
ST. JAMES
ST. JOHN THE BAPTIST
ST. CHARLES
ORLEANS
ST. BERNARD
PLAQUEMINES
ST. MARTIN
TERREBONNE
LA FOURCHE
JEFFERSON

Lake Maurepas
Lake Pontchartrain
Lake Ludor
Barataria Bay
Terrebonne Bay
Lake Washington

Angola, Leesville, Jackson, Clinton, Liverpool, Greensburg, Mt. Herman, Clifton, Franklinton, Bogalusa, Amite, Independence, Greenville Spgs., Pine Grove, Grangeville, Fluker, Indian Mds., Chambertin, Livonia, Lottie, Torras, Leitchfield, Wakefield, Zachary, Fred, Slaughter, Plains, Mt. Manus, Nelson, Chipola, Yantwood, Onville, Run Bush, Talisheek, Bush, Abita Springs, Covington, Madisonville, Mandeville, Lacombe, Pearl River, N. Slidell, Slidell, Florenville, Hammond, Ponchatoula, Springfield, Albany, Springville, Livingston, Corbin, Hornbeam Springs, Magnolia, Baton Rouge, Port Hudson, Zachary, Scotlandville, Greenwell Springs, Jones Creek, Central, Denham Springs, Walker, Watson, Gonzales, Prairieville, Galvez, Oak Grove, Alite, Galvestown, Maurepas, Whitehall, Darrow, Sorrento, Burnside, Donaldsonville, Napoleonville, Convent, Labadieville, Lockport, Valentine, Larose, Cut off, Thibodaux, Lk. Bouef, Grassy Lk., Chacahoula, Houma, Houma Townsite, Theriot, Dulac, Lk. Decade, Minor, Bayou Terrebonne, Morgan City, Glen Wild, Bayou Blue, Plaquemine, Choctaw, Bayou Henry, Ramah, Texas, Lk. Mongouloi, White Castle, S.E. Plaquemines, Hahnville, St. Rose, New Orleans, Algiers, Lk. Ponchartrain, Lk. Maurepas, Lk. Ludor, Lk. Netherland, Lk. Salvador, Lk. Bully Camp, Lafitte, Barataria, La Fille, Leeville, Bay Marchand, Caillou Island, Lk. Pelto, Lk. Barre, Four Isle, Dog Lk., Bay St. Elaine, Bay Junop, Lk. Washington, Hermitage, Batiste, Home Place, Pot Ash, Bohemia, Pointe a la Hache, Olivier, Lake Lery, Shell Beach, St. Bernard, Venice, Quarantine, Garden Id. Bay, Buras, Ft. Jackson, Barataria, Berthandville, Algiers, Jones Allemands, Paceland, Lockport, Larose, Cut off, Valentine, Houma, Thibodaux, Lk. Bouef, Grassy Lk., Labadieville, Napoleonville, Convent, Donaldsonville, Sorrento, Darrow, Burnside, Prairieville, Galvez, Oak Grove, Alite, Galvestown, Maurepas, Whitehall, Springfield, Ponchatoula, Hammond, Springville, Livingston, Albany, Corbin, Hornbeam Springs, Magnolia, Baton Rouge, Port Hudson, Zachary, Scotlandville, Greenwell Springs, Jones Creek, Central, Denham Springs, Walker, Watson, Gonzales, Livonia, Lottie, Torras, Leitchfield, Wakefield, Plains, Mt. Manus, Nelson, Chipola, Yantwood, Onville, Run Bush, Talisheek, Bush, Abita Springs, Covington, Madisonville, Mandeville, Lacombe, Pearl River, N. Slidell, Slidell, Florenville, Hammond, Ponchatoula, Springfield, Albany, Springville, Livingston, Corbin, Hornbeam Springs, Magnolia, Baton Rouge, Port Hudson, Zachary, Scotlandville, Greenwell Springs, Jones Creek, Central, Denham Springs, Walker, Watson, Gonzales, Livonia, Lottie, Torras, Leitchfield, Wakefield, Plains, Mt. Manus, Nelson, Chipola, Yantwood, Onville, Run Bush, Talisheek, Bush, Abita Springs, Covington, Madisonville, Mandeville, Lacombe, Pearl River, N. Slidell, Slidell, Florenville

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